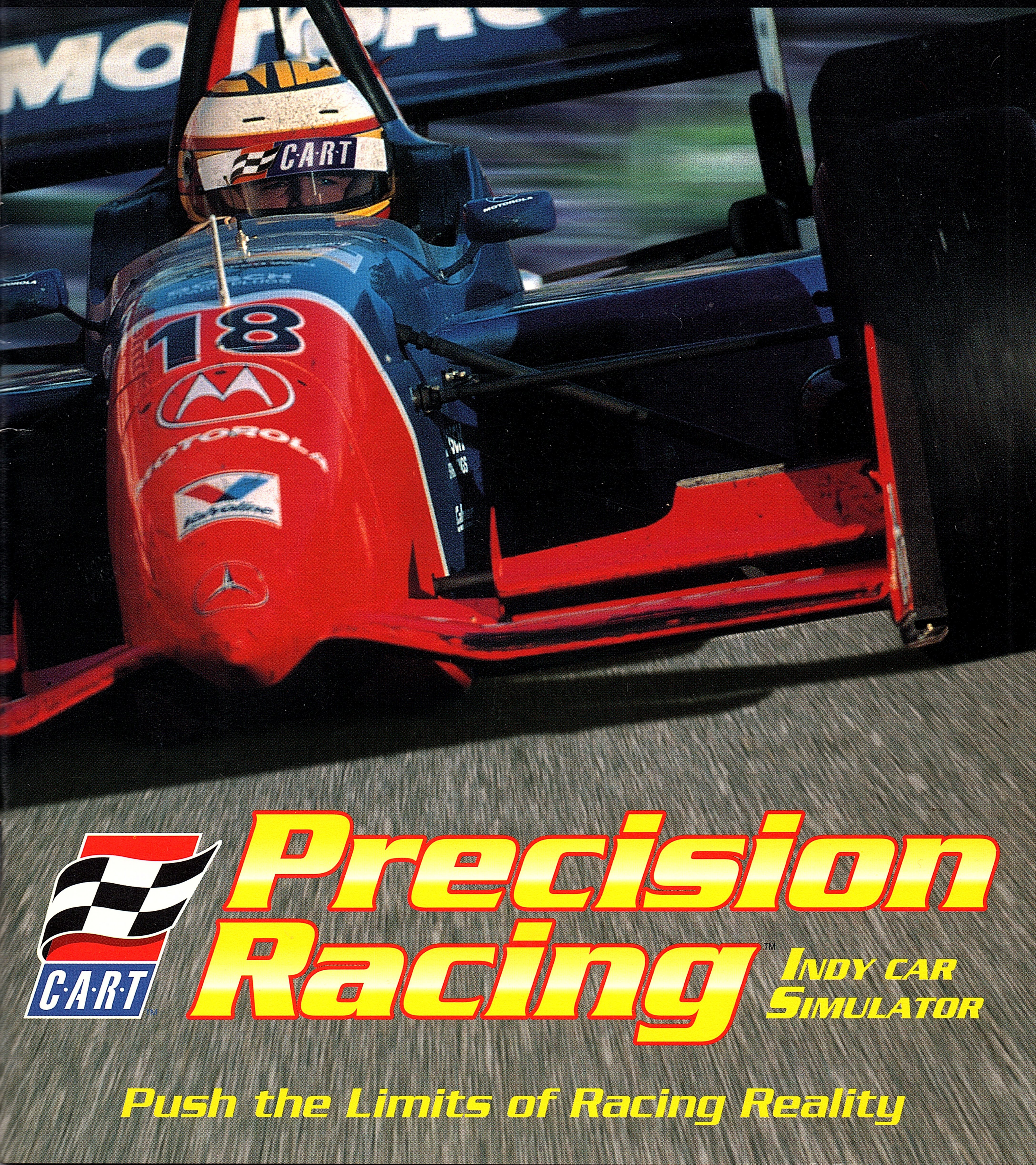
Microsoft



C·A·R·T

Precision Racing™

INDY CAR SIMULATOR

Push the Limits of Racing Reality

Your Guide to Microsoft Technical Support

If you have a technical question about *CART Precision Racing (TM),* use this manual or consult online Help. If you still have a question, Microsoft offers technical support and services ranging from self-help tools to direct assistance with a Microsoft Technical Support Engineer. Note: The services and prices listed here are available in the United States and Canada only.*

Self-Help Tools to Find Answers Yourself

Microsoft Technical Support Online: This innovative site uses cutting-edge Microsoft technology to help you access the most relevant technical information and resources to answer your support questions. Use the Troubleshooting Wizards to easily diagnose and answer technical questions. Or select technical articles, programming aids, or commonly asked questions from the Microsoft Technical Support Knowledge Base of over 75,000 articles. Visit http://www.microsoft.com/support/.

Direct Assistance with a Microsoft Technical Support Engineer

Standard No-Charge Support: Microsoft offers Standard No-Charge Support for retail versions** of this product as follows:

Unlimited no-charge support.

In the U.S., call (425) 637-9308, 6:00 A.M. to 6:00 P.M. Pacific time, Monday through Friday, excluding holidays. In Canada, call (905) 568-3503, 5:00 A.M. to 5:00 P.M. Pacific time, Monday through Friday, excluding holidays. Note: Toll charges may apply.

***If your Microsoft product was pre-installed or distributed with your personal computer, the personal computer manufacturer is responsible for providing your product support. For support, contact the manufacturer or source from which you obtained your Microsoft product.*

After-Hours Support: If you require support after normal business hours, you can purchase Pay-Per-Incident Support. In the U.S., for a fee of $15U.S. per incident, call (800) 936-5600 or (900) 555-2400, 24 hours a day, 7 days a week, including holidays. In Canada, for a fee of $45CDN plus tax per incident, call (800) 668-7975, 5:00 A.M. to 9:00 P.M. Pacific time, 7 days a week, excluding holidays. *Note: Support fees for the (800)# calls will be billed to your VISA, MasterCard, or American Express credit card. Support fees for the (900)# calls will appear on your telephone bill.*

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In the U.S., for more information or to purchase an annual account, at a cost of $295U.S. per 10 incidents, call (800) 936-3500, 24 hours a day, 7 days a week, including holidays. To submit an incident against an existing account, call (800) 936-4700, 24 hours a day, 7 days a week, including holidays.

In Canada, for more information, to purchase an annual account at a cost of $295CDN plus tax per 10 incidents, or to submit an incident against an existing account, call (800) 668-7975, 5:00 A.M. to 9:00 P.M. Pacific time, 7 days a week, excluding holidays.

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***Technical Support Worldwide:** Support services and prices may vary outside the United States and Canada. For information on support available outside the U.S. and Canada, contact the local Microsoft subsidiary in your area. For a list of worldwide Microsoft subsidiaries, see Technical Support in online Help, or visit http://www.microsoft.com/support/.

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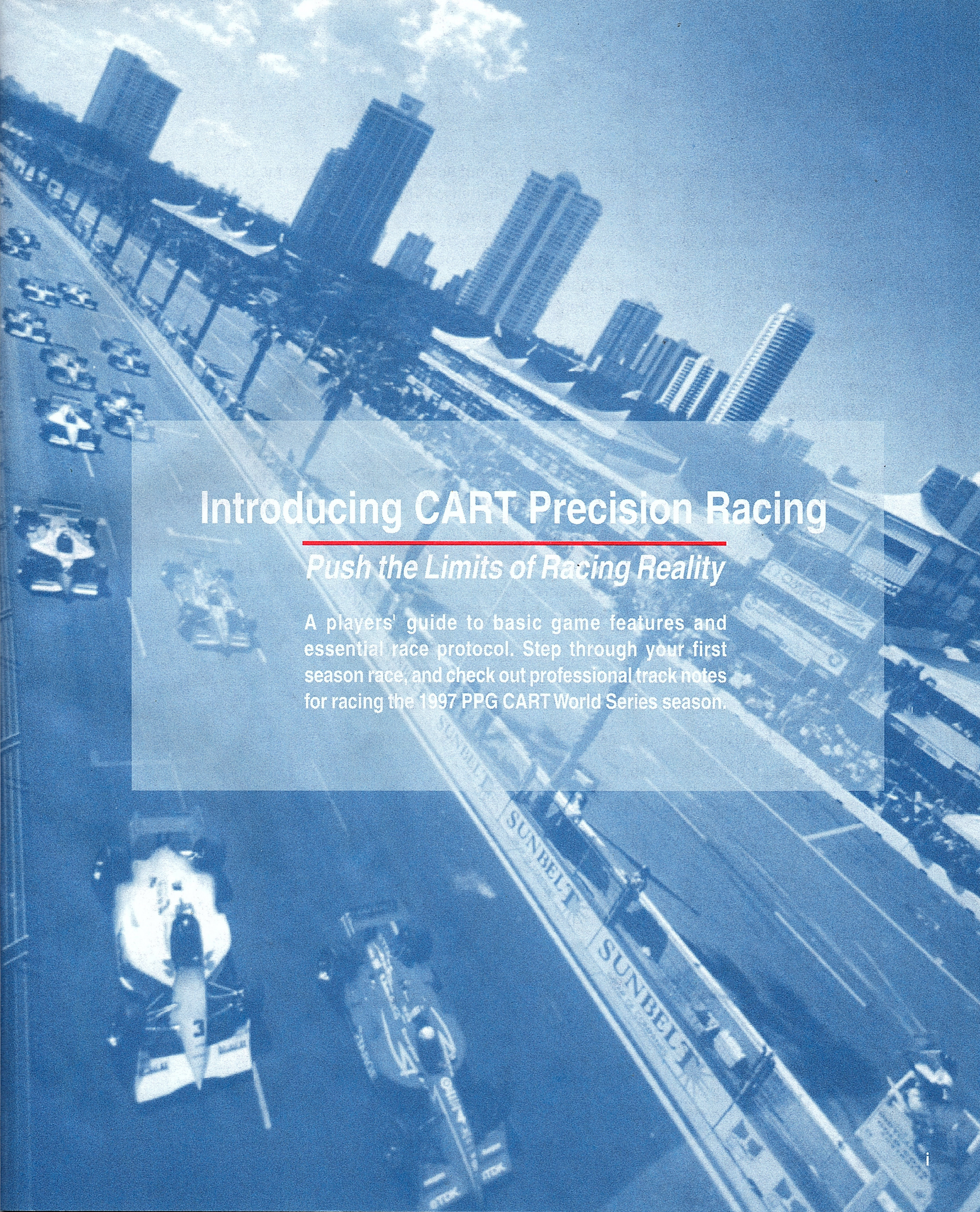

Introducing CART Precision Racing

Push the Limits of Racing Reality

A players' guide to basic game features and essential race protocol. Step through your first season race, and check out professional track notes for racing the 1997 PPG CART World Series season.

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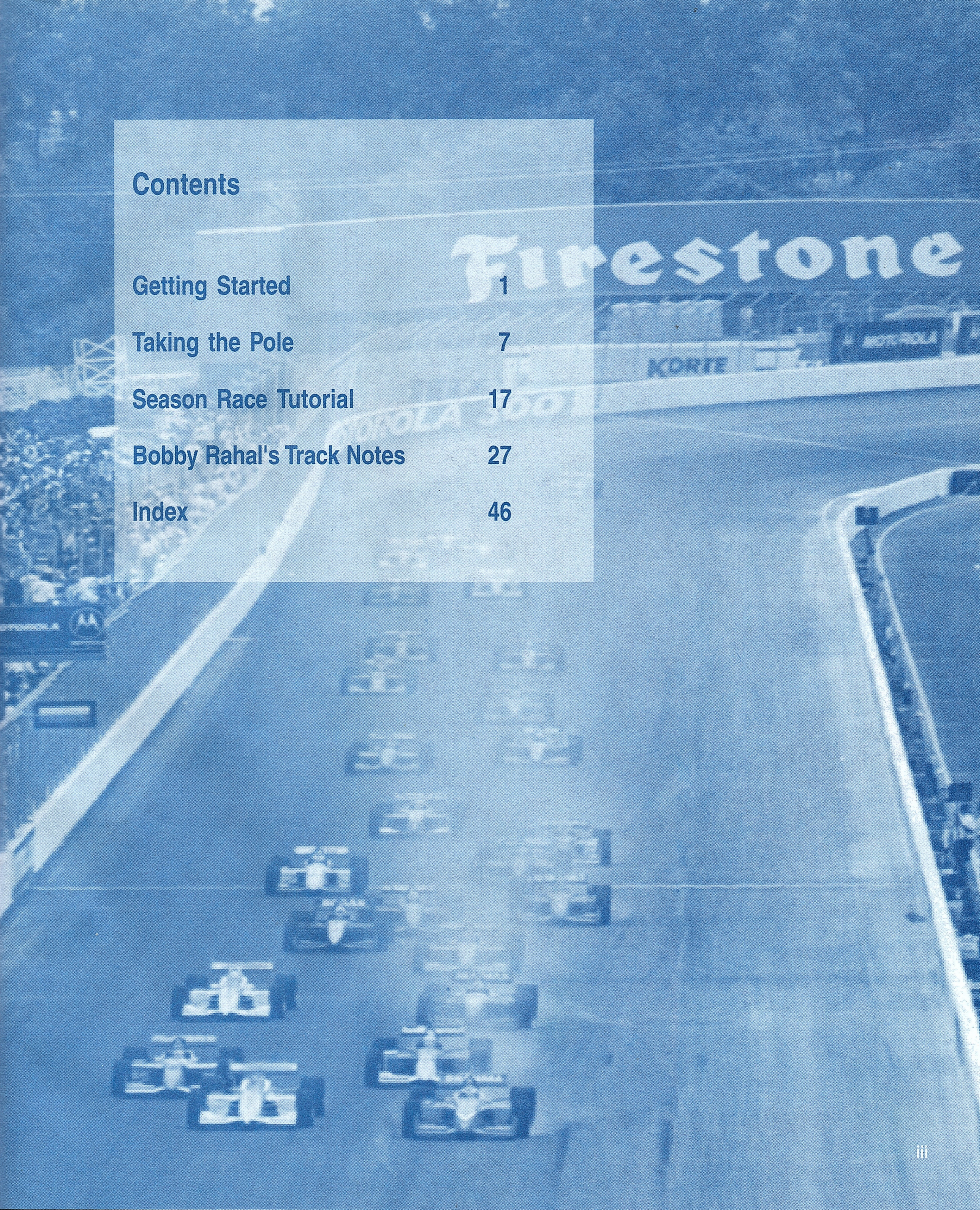

Firestone
KORTE
MOTOROLA
MOTOROLA

Contents

Getting Started 1

Taking the Pole 7

Season Race Tutorial 17

Bobby Rahal's Track Notes 27

Index 46

Getting Started

Contents

Quick Race 2
The Dashboard 3
Get Help 4
Racing School 5

Introduction

Since your first glimpse of an Indy car, you've dreamed about this ultimate racing experience. With *CART Precision Racing,* you live and breathe the unbelievable thrill of driving in the 1997 PPG CART World Series. Feel yourself slip into the cockpit. Hear the deafening roar of the engines. Experience the heart-pounding acceleration as the green flag waves and you jump on the throttle. Don't miss a millisecond of the excitement!

To get started, read this chapter and quickly master the basics of *Precision Racing.*

- Learn the fastest way to the races with "Quick Race."
- In "The Dashboard," learn about dash display information and indicators.
- In "Get Help," learn where to look for help and how to get the most out of this book.
- Learn valuable driving skills with the lessons in "Racing School."

Quick Race

If you want to begin racing now, click **Quick Race** on the game's **Start Screen**—it's the fastest way to the track. *Precision Racing* randomly picks the track, driver, and your starting position before putting you directly into the cockpit at the start of the race. If you wish, you can use **Configure Quick Race** to customize these settings.

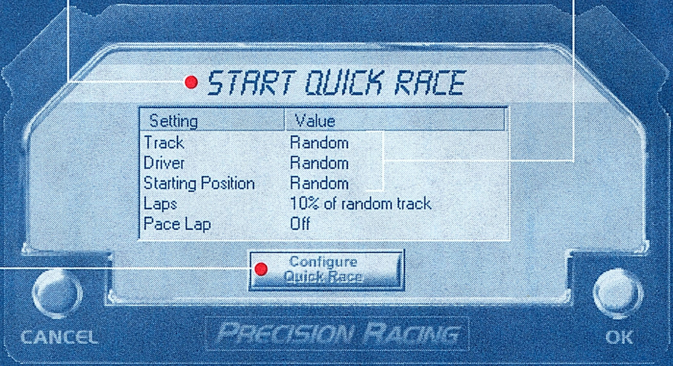
Once the green flag waves, you're in control. The table on the right lists basic driving controls. To see a list of other game controls, press **F1**. To quit or pause the race at any time, press **ESC**. Quick Race doesn't earn you any points toward season play, but it's a great way to get racing right away.

Important: The first time you start *Precision Racing*, the game prompts you to choose the type of device for driving the car—either accept preset keyboard controls or pick another device, such as a joystick or gamepad. You can change this setting at any time using the **Controls** command (**Options** menu).

Replace random settings with specific settings for track, driver, and starting position. Also, specify race length and whether to skip the pace lap.

Precision Racing **randomly picks these settings.**

When you click Quick Race on the Start Screen or Races screen, this dialog box appears.



Setting	Value
Track	Random
Driver	Random
Starting Position	Random
Laps	10% of random track
Pace Lap	Off

Basic Driving Controls

Action	Keys	Joystick or gamepad	Race car controller
Accelerate	UP ARROW	Forward	Gas pedal
Brake	DOWN ARROW	Back	Brake pedal
Steer left	LEFT ARROW	Left	Left
Steer right	RIGHT ARROW	Right	Right
Shift up *	A	Button 1	Gear lever toward driver
Shift down *	Z	Button 2	Gear lever away from driver
Reverse	R+UP ARROW	Button 3 +Forward	Button 3+ Gas pedal

* If you drive using the preset Rookie skill level, shifting is done for you (**Auto-Shift**).

The Dashboard

At a glance, see the important dash information and indicator lights from cockpit view. Watch the dashboard to monitor engine functions and driving performance. If you prefer a simpler view of key indicators, press **D** to turn off the dashboard, and use the head-up display. To hide all displays, press **D** a second time.

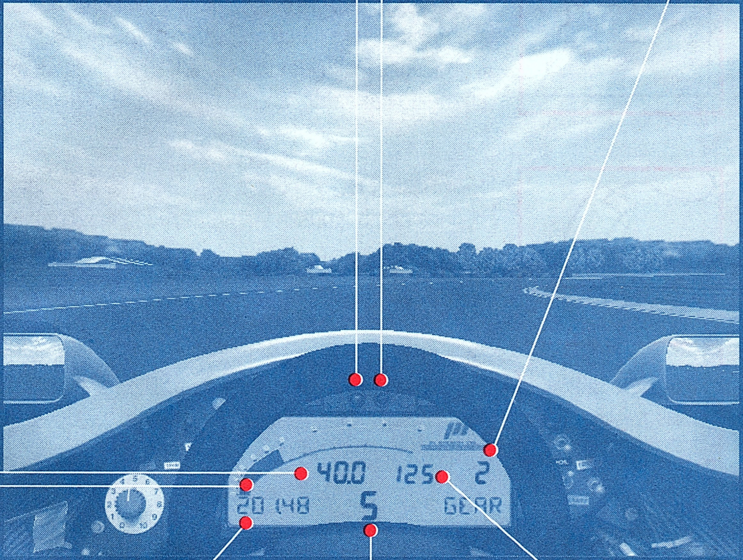
Monitor in conjunction with the dash lights to time your shifting.

For more horsepower, press 6 to increase pressure. To conserve fuel, press 5 to decrease pressure. Standard pressure is 40 inches; for every inch of boost, expect an increase of about 20 horsepower. Be careful though—if you increase boost with traction control turned off (Driving Aids option), your car may be harder to control.

When the shift light turns yellow, prepare to shift.

Red means Shift Now! (up).

Lap indicator.

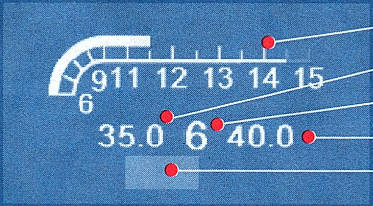


Time of last lap.

Gear.

Miles per hour.

Delco Electronics Racing EyeCue ®



RPM (x1000)

Fuel level

Gear

Boost pressure

Flag

Try this during the race:

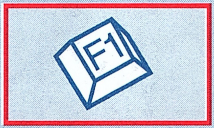
Game Controls Help	To see a list of game controls and commands, press **F1**.
Change views	To cycle through the different views of your car, press **V**.
Map overlay	To see a map of the track and your position in the race, press **M**. See the *Quick Reference Card* for an explanation of the symbols.
Picture-in-picture	To monitor close competitors or watch the action using another favorite view, press **I**.

Get Help

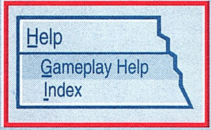
If you want to learn the game basics, start with this book and the accompanying *Quick Reference Card.* This book gets you up to speed quickly on important gameplay features and functions. "Quick Race" (page 2) puts you immediately on the track and in a race. "Season Race Tutorial" (page 17) guides you through your first season race. "Bobby Rahal's Track Notes" (page 27) is a handy guide to course layouts, including invaluable track notes from champion CART driver, Bobby Rahal.

Keep the *Quick Reference Card* handy when you're out on the track. The card provides a comprehensive list of game controls, driving aids, and universal keyboard commands. Also, it describes each instrument and indicator on the dashboard, head-up display, and map overlay.

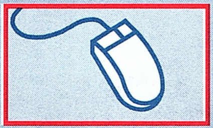
In addition to the book and reference card, there are several types of in-game help available to assist you.



Game Controls Help While racing, press **F1** to display an on-screen list of common game controls. Autopilot guides your car until you press **ESC** to get back to racing.



Gameplay Help Look up more advanced topics in **Gameplay Help** (**Help** menu). Get step-by-step instructions for key features, such as multiplayer racing, changing car setup, and interpreting Pi analysis data.



Right-Click Help Get more information about options and buttons in the game. Point to an option or button, and click the right-mouse button.

Driver X (Max Pa
Race Weekend (F

Status Area Located in the upper-right corner of the primary game screens, this feature keeps you up-to-date on your racing choices. Instantly see your driver and car number, current race and session, and track.

Racing School

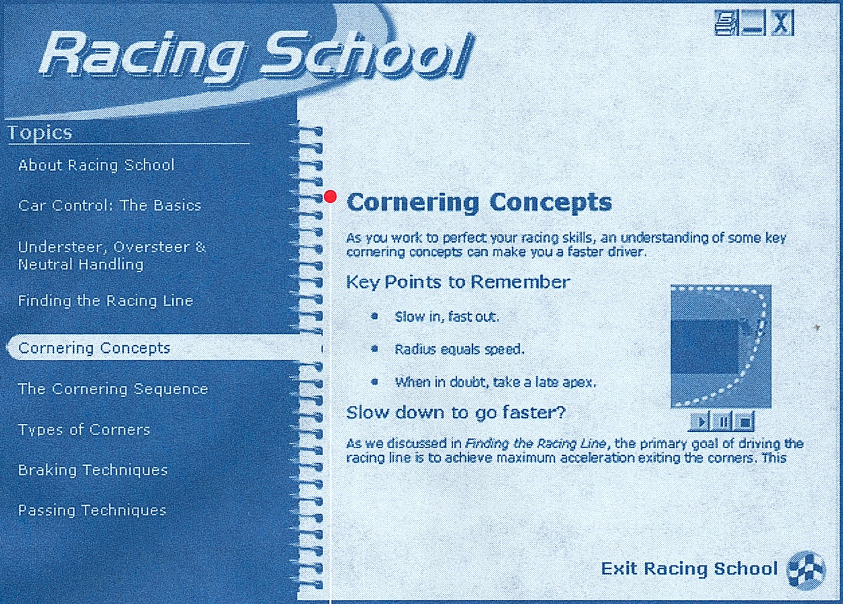
Racing School Read lessons and watch videos on basic driving skills, cornering, braking, and passing techniques. Find **Racing School** on the **Help** menu.

Racing School

If you've always wanted to go to Racing School, here's your chance! Maybe you're new to racing and curious to learn how race car driving will compare to your daily commute. Or, you're an aggressive, seasoned driver looking for the edge that will raise you to the ranks of the CART champions.

Learn from the pros—Racing School was developed with facts and feedback from professional drivers and race engineers. CART champion, Bobby Rahal, explains the dynamics of the car and fundamental race car driving techniques. Learn to identify whether it's the car or your driving that needs adjusting.

Click **Racing School** (**Start Screen** or **Help** menu).


Racing School
Topics
About Racing School
Car Control: The Basics
Understeer, Oversteer & Neutral Handling
Finding the Racing Line
Cornering Concepts
The Cornering Sequence
Types of Corners
Braking Techniques
Passing Techniques
Exit Racing School

Cornering Concepts

As you work to perfect your racing skills, an understanding of some key cornering concepts can make you a faster driver.

Key Points to Remember

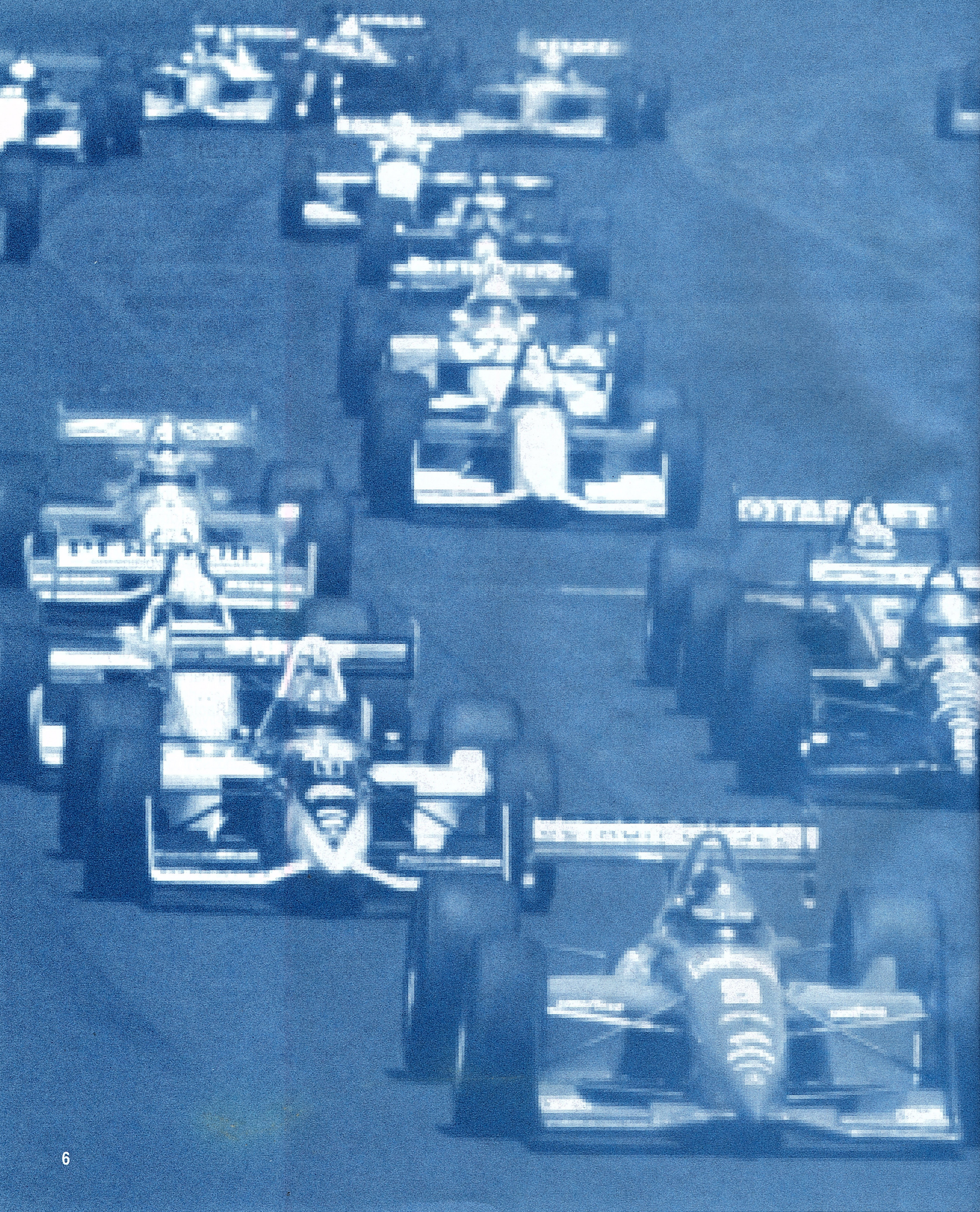
- Slow in, fast out.
- Radius equals speed.
- When in doubt, take a late apex.

Slow down to go faster?

As we discussed in *Finding the Racing Line*, the primary goal of driving the racing line is to achieve maximum acceleration exiting the corners. This

To begin a lesson, click the topic.

Each lesson has animation and many have real-world video clips. Listen and learn with video commentary from champion CART driver, Bobby Rahal. At the end of each lesson, take time to complete the practice lap exercises so that you can try out the techniques you've just learned.



Taking the Pole

Contents

Choose a Car and Driver 8
Learn About the Drivers 9
Choose a Track 10
Learn About the Tracks 11
Set Up Driving Aids 12
Choose Realism Options 13
Adjust Your Car 14
Choose a Race 15

Introduction

A hush falls over the grandstand as the announcer begins the race-day commentary. Excitement builds as the crowd anticipates the start of the race. The big day is here, and you're warming up the tires on the pace lap. As soon as the green flag waves, you're off!

If you're ready to experience the thrill and excitement of *CART Precision Racing*, read this chapter and learn all the "need-to-know" information that will put you in the driver's seat. Follow along as you prepare for your first race. Select your car, driver, track, and race event. Also, learn about driving aids, realism settings, and adjusting your car.

Choose a Car and Driver

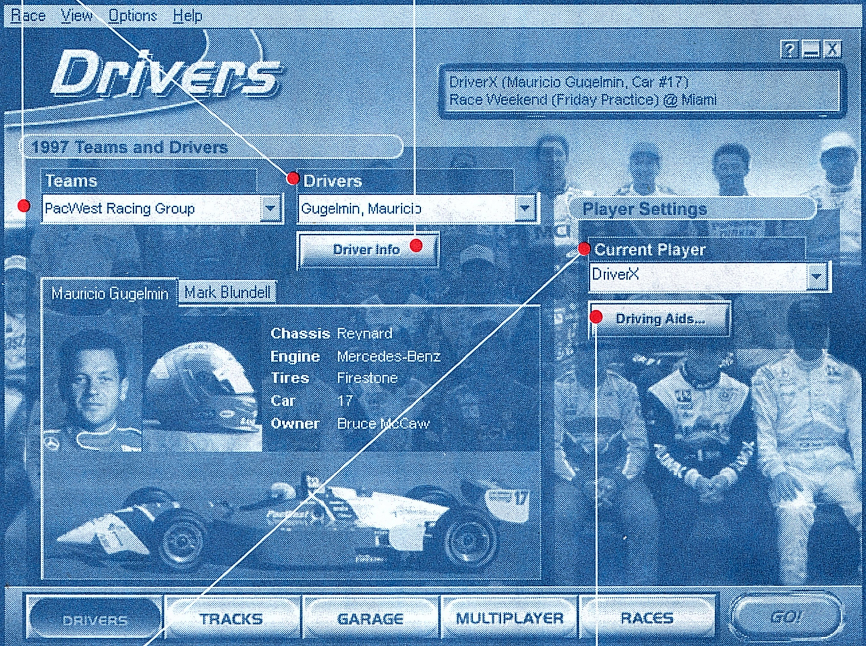
Before the race, pick the car and driver that you will steer to victory. With so many popular racers to choose from, many factors may sway your decision. Do you favor a team with a winning combination of engine, chassis, and tires? Possibly, you prefer the star appeal of the Newman/Haas team, with its leading man and co-owner, Paul Newman.

In addition to your car and driver choices, the **Drivers** screen is where you can specify player settings; choose a player name, and select driving aids and a skill level. Whether you're new to the game or an expert on the PPG CART World Series circuit, *Precision Racing* has a skill level and an assortment of driving aids that are right for you.

If you don't have a particular driver in mind, choose a popular team instead. If a team has several cars and drivers, click the tab for the car and driver you want.

If you already know which car and driver you want, pick the driver from the list.

If you can't decide which car and driver to race, click to read about the 1997 CART drivers—from their personal bios, to career highlights and race statistics. See "Learn About the Drivers," page 9.


Race View Options Help
Drivers
1997 Teams and Drivers
Teams
Drivers
Driver Info
Player Settings
Current Player
Driving Aids...
Mauricio Gugelmin
Mark Blundell
DRIVERS
TRACKS
GARAGE
MULTIPLAYER
RACES
GO!

DriverX (Mauricio Gugelmin, Car #17)
Race Weekend (Friday Practice) @ Miami

Teams: PacWest Racing Group
Drivers: Gugelmin, Mauricio
Current Player: DriverX

Chassis Reynard
Engine Mercedes-Benz
Tires Firestone
Car 17
Owner Bruce McCaw

The current player name is associated with the car and driver you choose. Use an existing player name for the current race, or type a new name.

Set the skill level and driving aids for the current player. This important feature can make all the difference in how well you do on the track. See "Set Up Driving Aids," page 12.

Learn About the Drivers

Before you choose a driver for your next race, find out more about the driver's 1997 season and career record. Go to Driver Info to read about a driver's wins, poles, and finishes. Also, review career highlights for your favorite drivers, and get up-close and personal with driver bios.

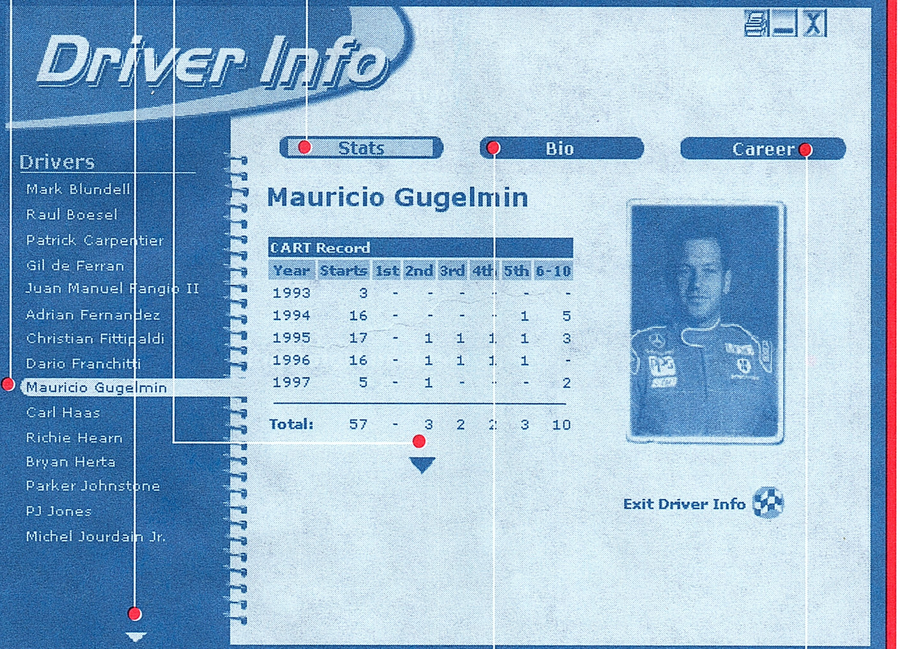
On the **Drivers** screen, click **Driver Info**.

Click to select a driver.

Click to scroll the list of drivers.

Click to see more information.

Click to review the driver's season and career CART records, including wins, poles, and 1997 starting grid positions.



Drivers

Mark Blundell
Raul Boesel
Patrick Carpentier
Gil de Ferran
Juan Manuel Fangio II
Adrian Fernandez
Christian Fittipaldi
Dario Franchitti
Mauricio Gugelmin
Carl Haas
Richie Hearn
Bryan Herta
Parker Johnstone
PJ Jones
Michel Jourdain Jr.

Mauricio Gugelmin

CART Record

Year	Starts	1st	2nd	3rd	4th	5th	6-10
1993	3	-	-	-	-	-	-
1994	16	-	-	-	-	1	5
1995	17	-	1	1	1	1	3
1996	16	-	1	1	1	1	-
1997	5	-	1	-	-	-	2
Total:	57	-	3	2	2	3	10

Click to read about the driver's personal life and interests. Look here for fan club information.

Click to see a list of the driver's career highlights, including championships and career-best records.

Choose a Track

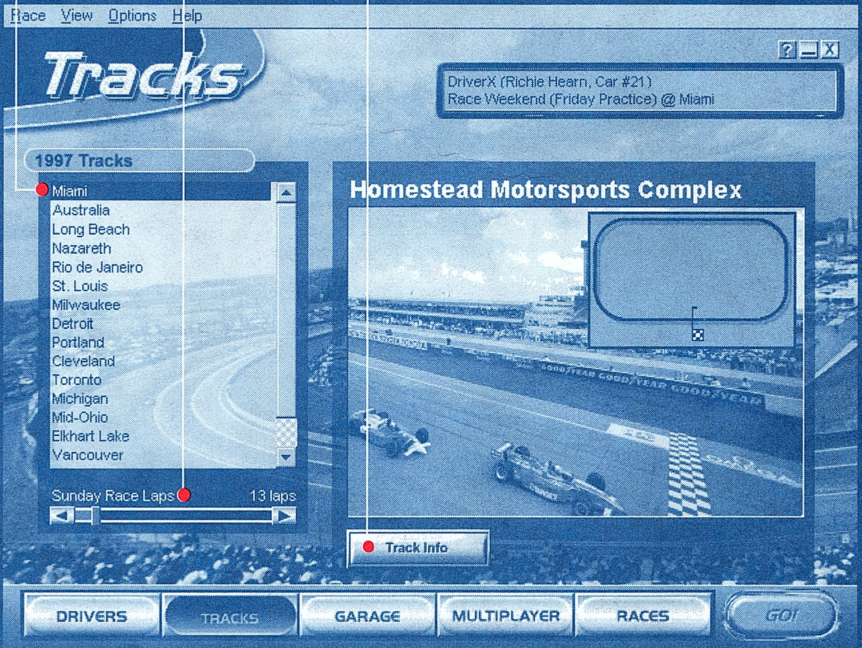
Before the race weekend begins, pick your track from the list of 1997 PPG CART World Series circuits. There's a track to suit every level of racing ability and experience. Choose one of the high-speed ovals like Miami or Milwaukee, a challenging street circuit like Australia or Long Beach, or maybe one of the more formidable road courses like Laguna Seca or Elkhart Lake. Also, go to **Track Info** to watch in-cab video track tours and check the drivers' starting grid positions for each track.

For season play, *Precision Racing* automatically loads your next track based on the order of 1997 tracks on the **Tracks** screen. For Quick Race, you can choose the track yourself, or race the track selected randomly for you.

Click to select a track.

For race weekends, drag the slider to pick the number of laps for the Sunday race (maximum number of laps equals the official race length).

Click to learn more about the tracks in *Precision Racing.* Tour the track with a professional CART driver—watch video filmed from a cockpit-mounted camera. Prepare yourself to race the track by studying a track map. See "Learn About the Tracks," page 11.



DriverX (Richie Hearn, Car #21)
Race Weekend (Friday Practice) @ Miami

1997 Tracks

- Miami
- Australia
- Long Beach
- Nazareth
- Rio de Janeiro
- St. Louis
- Milwaukee
- Detroit
- Portland
- Cleveland
- Toronto
- Michigan
- Mid-Ohio
- Elkhart Lake
- Vancouver

Sunday Race Laps 13 laps

Homestead Motorsports Complex

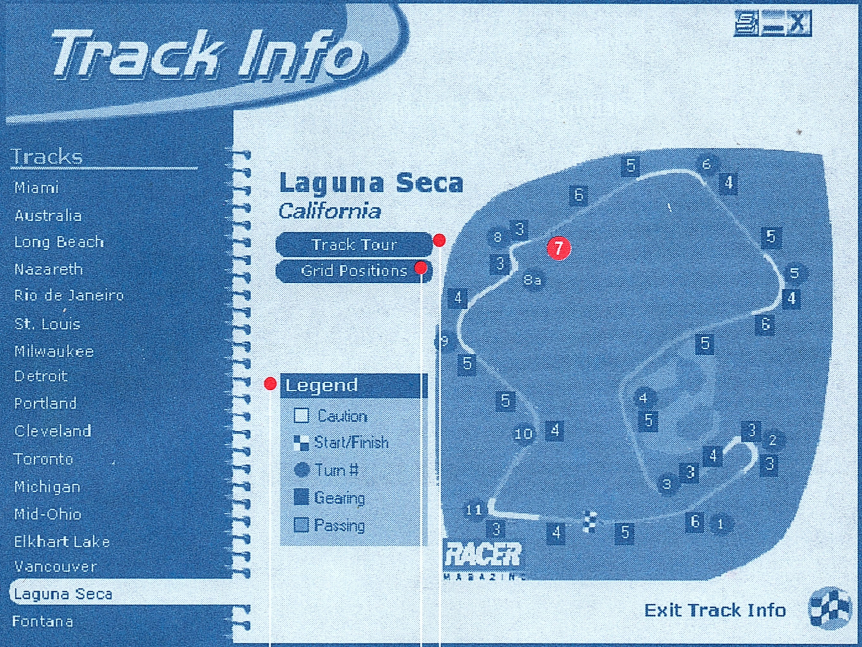
Learn About the Tracks

The **Track Info** screen is a must for all players! Learn the vital details about the courses before getting behind the wheel. If you're not familiar with the track, watch the in-cab video tour to get a feel for the course and its unique driving requirements. Discover its hair-raising bends, turns, and curves, and decide if you're ready for the challenge.

Click **Grid Positions** for the starting lineup on each of the 1997 tracks. If you want to skip qualifying and use a driver's starting grid position for the race, look here to find out which drivers lead the pack. Also, check the starting grid positions throughout the season when you pick your race-season driver.

On the **Tracks** screen, click **Track Info**.

Click to select a track.


Track Info
Tracks
Miami
Australia
Long Beach
Nazareth
Rio de Janeiro
St. Louis
Milwaukee
Detroit
Portland
Cleveland
Toronto
Michigan
Mid-Ohio
Elkhart Lake
Vancouver
Laguna Seca
Fontana
Laguna Seca
California
Track Tour
Grid Positions
Legend
☐ Caution
Start/Finish
● Turn #
■ Gearing
☐ Passing
RACER MAGAZINE
Exit Track Info

Identify track turns and the start/finish line, as well as important gearing, passing and caution zones.

Click to view the in-cab video tour of the track.

Click to view *CART Precision Racing* starting grid positions.

Set Up Driving Aids

It's time to make up your mind. Will you race as a rookie to hone your driving skills? Or are you a more seasoned driver looking for a serious challenge? Use *Precision Racing* driving aids and realism settings to make the race as demanding as you like.

First, choose your skill level—**Rookie**, **Intermediate**, or **Professional**. Next, pick your driving aids. Less experienced players may want options for assisted braking and shifting, as well as track guides. Veteran racers may eliminate all driving aids for ultimate control.

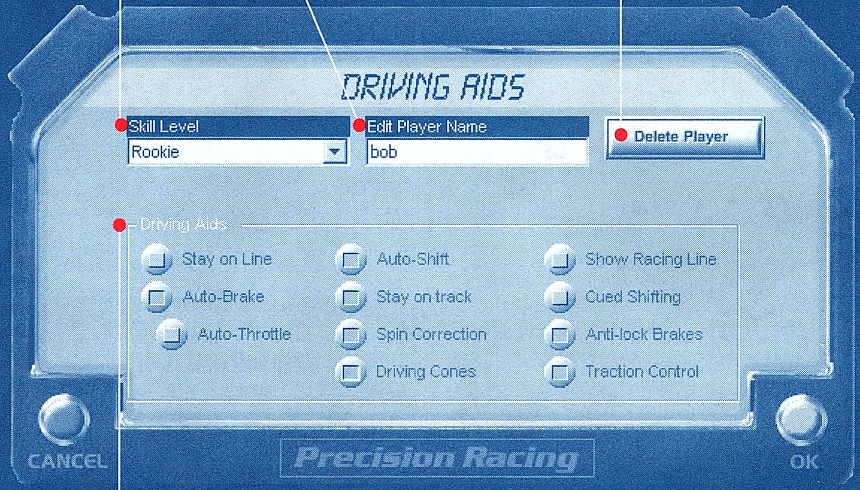
On the **Options** menu, click **Driving Aids**. To review or update your current driving aids during a race, press **F2**; the race pauses while you view the settings.

Note: For help understanding what a driving aid does and why you might use it, click the option with the right-mouse button.

Choose wisely! Rookies may turn on any or all of the driving aids. However, some settings are unavailable for intermediate and professional drivers.

Driving aids and skill level are associated with the player name. To replace or change the name associated with the current settings, type a new player name.

Delete the displayed player name and the associated driving aids and skill level settings.


DRIVING AIDS
Delete Player
Driving Aids
Stay on Line
Auto-Brake
Auto-Throttle
Auto-Shift
Stay on track
Spin Correction
Driving Cones
Show Racing Line
Cued Shifting
Anti-lock Brakes
Traction Control
CANCEL
Precision Racing
OK

Skill Level: Rookie

Edit Player Name: bob

If the driving aids you want to use are unavailable, selecting an easier skill level will make the options available.

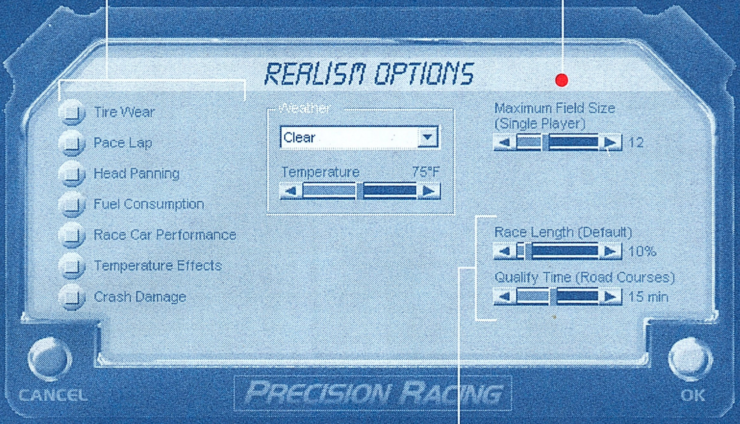
Choose Realism Options

With *Precision Racing* realism options, make your race experience as realistic as you can handle. In general, turning on the options on the left side of the dialog box gives you a more realistic driving experience.

As you become a more skilled CART driver, turn on more advanced options, such as **Tire Wear**, **Temperature Effects**, and **Crash Damage**, which add an additional element of difficulty to the game. Encounter the same problems as the professional drivers—from low fuel to collision damage.

On the **Options** menu, click **Realism**. To review or update your current realism settings during a race, press **F3**; the race pauses while you view the settings.

Note: For help understanding the purpose and use of these options, click the option with the right-mouse button.



☐ Tire Wear
☐ Pace Lap
☐ Head Panning
☐ Fuel Consumption
☐ Race Car Performance
☐ Temperature Effects
☐ Crash Damage

Weather: Clear
Temperature: 75°F
Maximum Field Size (Single Player): 12
Race Length (Default): 10%
Qualify Time (Road Courses): 15 min

Turn on these options for a more realistic driving experience.

Decrease the number of opponents if the game is running too slow or if you want a less-crowded field.

Use the actual CART session length (Sunday races) and time (Friday and Saturday qualifying), or choose to drive only a portion of the sessions.

Adjust Your Car

Precision Racing comes with default garage settings for each track. Expect these default car setups to give you average performance on the tracks. One of this game's many challenges (as in the real world of professional racing) is that you must adjust your setup if you want to out-race your opponents.

Before you begin making adjustments, go for a test drive using the default settings. Use the test drive to gauge handling and performance. Then press **ESC**, and click **Garage** to return to the garage. Get professional advice from Nigel Bennett, the game's race engineer (**Overview** tab). One of the most successful engineers in racing history, Nigel Bennett provides expert advice on how to fine-tune your car setup.

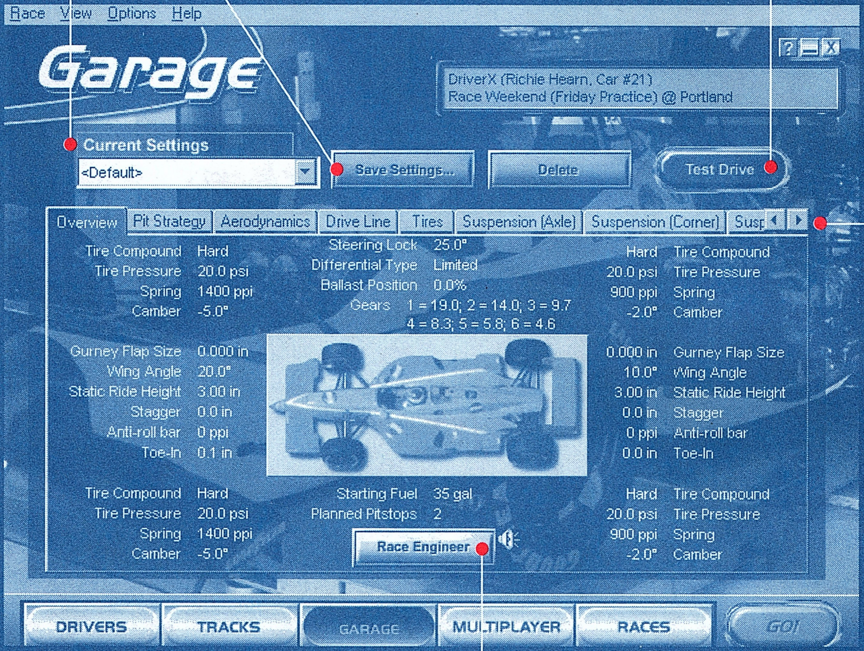
If you've found the right setup for optimum performance, save your settings for the next session. For more detailed information about car setups, see "Analyzing Your Car's Performance" (**Gameplay Help**, **Help** menu). ∞

Note: Even more help is available when you click an option with the right-mouse button.

Choose one of your customized garage settings files, or use the default setting for the current track.

Make a few small adjustments, save the file, and then take a test drive. Repeat this process until you're happy with the setup for the track you're racing.

Check your setup on the track.



DriverX (Richie Hearn, Car #21)
Race Weekend (Friday Practice) @ Portland

<Default>

Tire Compound Hard
Tire Pressure 20.0 psi
Spring 1400 ppi
Camber -5.0°

Steering Lock 25.0°
Differential Type Limited
Ballast Position 0.0%
Gears 1 = 19.0; 2 = 14.0; 3 = 9.7
4 = 8.3; 5 = 5.8; 6 = 4.6

Hard Tire Compound
20.0 psi Tire Pressure
900 ppi Spring
-2.0° Camber

Gurney Flap Size 0.000 in
Wing Angle 20.0°
Static Ride Height 3.00 in
Stagger 0.0 in
Anti-roll bar 0 ppi
Toe-In 0.1 in

0.000 in Gurney Flap Size
10.0° Wing Angle
3.00 in Static Ride Height
0.0 in Stagger
0 ppi Anti-roll bar
0.0 in Toe-In

Tire Compound Hard
Tire Pressure 20.0 psi
Spring 1400 ppi
Camber -5.0°

Starting Fuel 35 gal
Planned Pitstops 2

Hard Tire Compound
20.0 psi Tire Pressure
900 ppi Spring
-2.0° Camber

The race engineer asks questions about your car's performance. Based on your responses, the engineer recommends adjustments, and then makes the changes for you, if you choose.

Click these arrows to see more Garage tabs.

Choose a Race

Go to the **Races** screen—it's race time! If you've got an event in mind, such as the Miami race, pick **Single Race Weekend** and drive one or all of the weekend sessions: Friday Practice, Friday Qualifying, Saturday Practice, Saturday Qualifying, Sunday Warm-Up, and the Sunday Race. To simulate the championship tour, choose **Full Race Season** and race 1997 PPG CART World Series tracks. If you're not quite ready for a race, practice your skills with a **Test Drive**. Or go straight to a race with **Quick Race**.

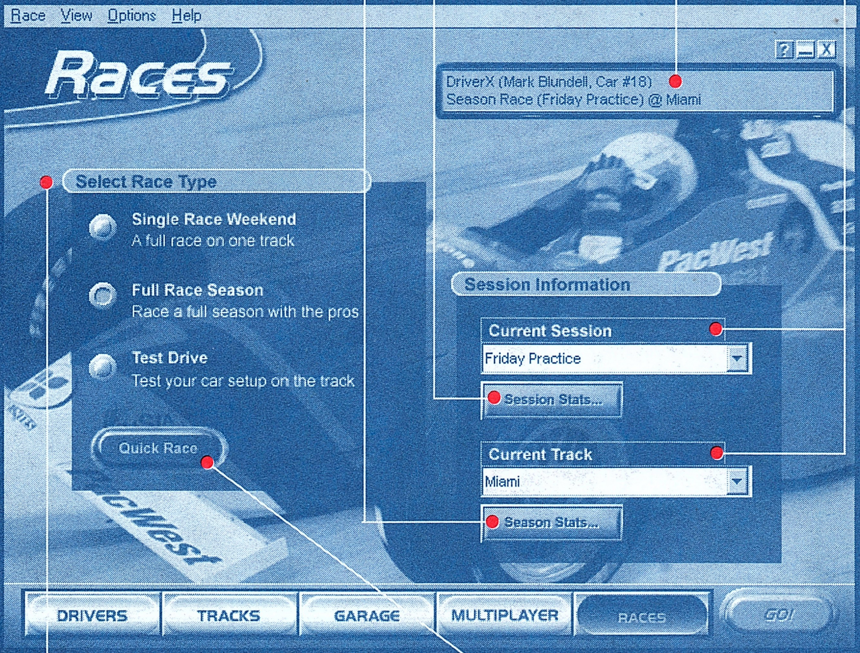
Stop by the **Races** screen to check your standing and point totals. Compare your stats with the professional drivers, and see which drivers are challengers for the lead and which ones have fallen out of contention. If you're off the pace, devise your strategy for the next event.

Choose the session and track.

Review times and speeds, and other important stats for the current weekend's sessions.

Shows point totals for a race season, listed by driver and circuit.

Shows player name, driver, session, and track.


Race View Options Help
Races
Select Race Type
Single Race Weekend
A full race on one track
Full Race Season
Race a full season with the pros
Test Drive
Test your car setup on the track
Quick Race
Session Information
Current Session
Session Stats...
Current Track
Season Stats...
DRIVERS
TRACKS
GARAGE
MULTIPLAYER
RACES
GO!

DriverX (Mark Blundell, Car #18)
Season Race (Friday Practice) @ Miami

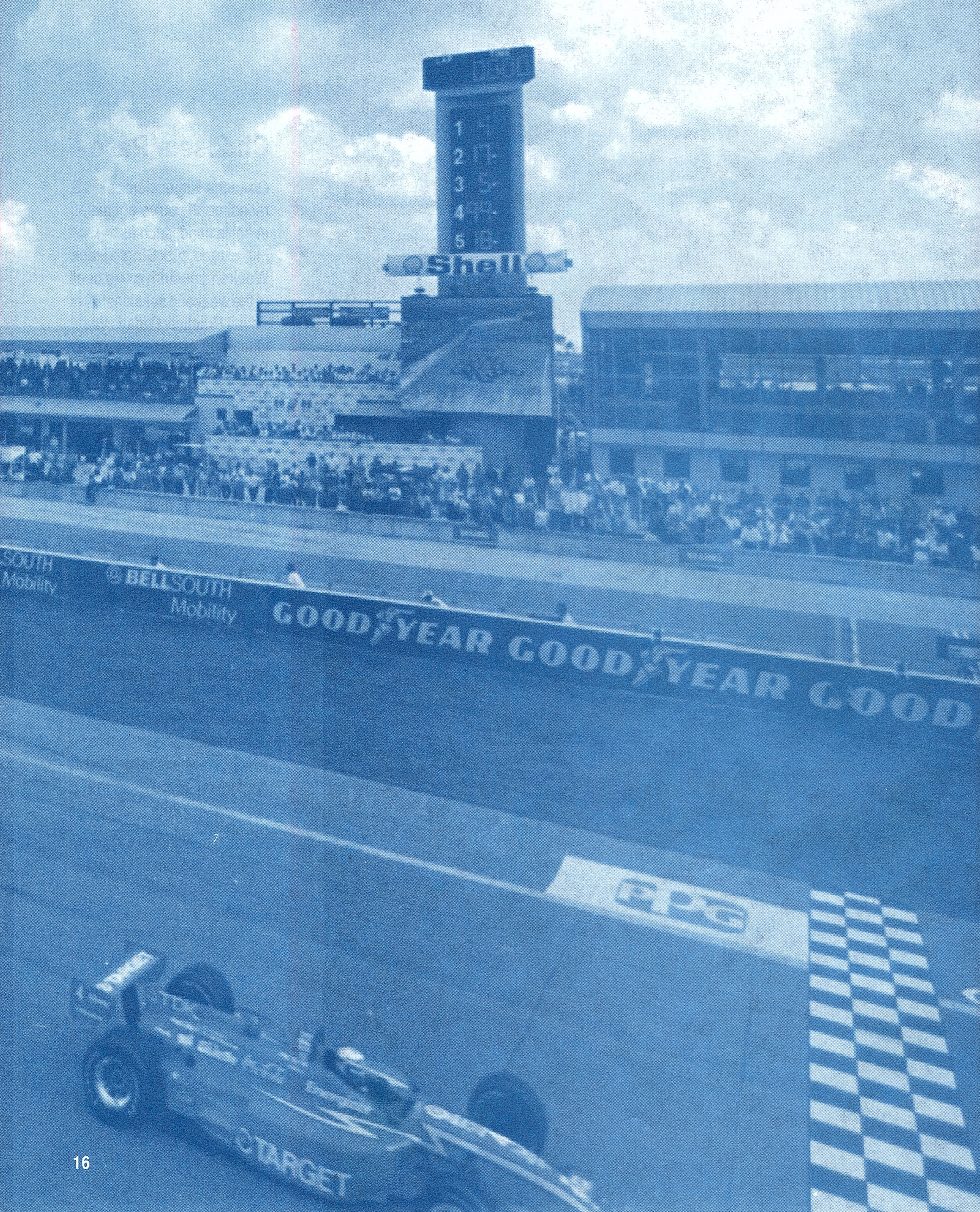
Current Session: Friday Practice

Current Track: Miami

Choose the type of race you want to run. For a tutorial on racing a season race, see "Season Race Tutorial," page 17.

Note: Each time you choose Full Race Season, you create a new season, unless you open a previous season's file (Open Race, File menu).

Begin a race immediately (no season points earned). See "Quick Race," page 2.


Shell
1
2
3
4
5
BELLSOUTH Mobility
GOODYEAR GOODYEAR GOOD
PPG
TARGET

Season Race Tutorial

Contents

Race Miami 18

Friday Practice 19

Friday Qualifying 20

Saturday Practice and Qualifying 21

Sunday Warm-Up 22

Sunday Race 23

Introduction

A Start-to-Finish Tutorial for Driving a Season Race in the 1997 PPG CART World Series

As you begin a race season, it's important to understand how to make the most of each race session and use the game's many features and functions. Follow along as this tutorial takes you through your first race weekend at Miami. The following pages walk you through each of the weekend sessions and provide many valuable tips for improving your driving skills.

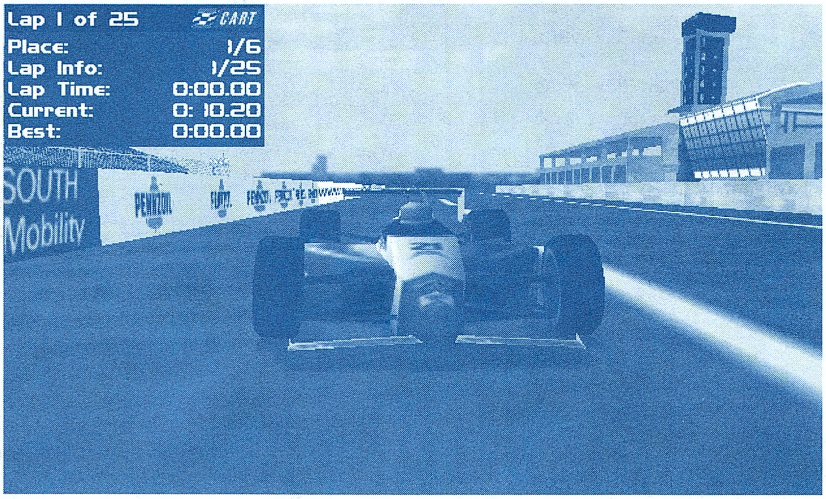
Use Preset Values

This tutorial assumes that you're using the preset values for driver/team, driving aids, game controls, and realism options. You'll race using Rookie driving aids and standard keyboard controls. Also, all sessions are turned on (Session Control, Options menu).

Don't worry if you've already changed *Precision Racing* settings—just keep in mind that your experience may differ somewhat from this tutorial. To review the preset values for driving aids and realism options, see pages 12 and 13 of this book.

Race Miami

Preparation The 1997 PPG CART World Series begins at Miami with the Friday Practice. To get ready, turn to page 28 of this book, and study the Miami track. Pick out the starting line, and visualize your path around the track. Note the four left-banked turns and long front and back straightaways on this quad-oval. Pay special attention to Bobby Rahal's track notes, which show gearing, as well as caution and passing zones.


Lap 1 of 25
Place: 1/6
Lap Info: 1/25
Lap Time: 0:00.00
Current: 0: 10.20
Best: 0:00.00

Richie Hearn, leaving pit lane.

Friday Practice

1 **Start the Season** On the **Races** screen, click **Full Race Season**. Make sure **Friday Practice** is selected in the **Current Session** list, and then click **GO!** While *Precision Racing* loads the cars, scenery, and other race data for Friday Practice, study the track map on the screen.

2 **Drive the Car** Suddenly, you're in the cockpit. A countdown starts—3-2-1—and you're in control of the car! Use the **UP**, **DOWN**, **LEFT**, and **RIGHT ARROW** keys on the numeric keypad to accelerate, decelerate, and steer the car.

3 **Review the Game Controls** Press **F1** to see a list of frequently used game controls. Don't worry about crashing—autopilot controls your car while the **Game Controls Help** is displayed. (You will have minimum left and right steering capabilities; autopilot controls the throttle and keeps you on the track.) To return to the track, press **ESC**.

4 **Use the Driving Cones** As you drive the turns, watch for the orange cones that mark the turn-in, apex, and exit points. These driving cones identify the preferred path for achieving the fastest speed through the turns. Use these cones as reference points—decreasing speed as you turn-in, and accelerating again as you pass the apex cone and then exit the turn.

5 **Monitor the Pit Board** The pit board's lap timer (upper-left corner of the screen) times each of your laps. Check the pit board often to see your current lap time, best lap time, and the number of remaining laps. If you don't see the pit board, press **O** to activate it (press **O** twice if the leader board is displayed).

6 **Look at Your Results** After you cross the finish line at the end of the practice, *Precision Racing* displays the **Session Results** screen. You'll find your best lap time and current grid position posted here. Your stats are highlighted in blue.

7 **Go to the Next Session** After reviewing your results, it's time to qualify for Sunday's race. To go straight to Friday Qualifying, click **Next Session**.

Session Objectives

Use this session to become familiar with the track. Get a feel for how your car handles at progressively faster speeds. Learn how it responds to each turn and straightaway. Locate visual cues for braking and acceleration points.

Expect heavy braking at Turn 1 and Turn 3. Jump the throttle to accelerate out of Turn 2 and Turn 4, where you hit the straightaways. Prepare for the next session, Friday Qualifying, by trying to best your previous time with each new lap.

Session Objectives

This session is all about speed—a faster qualifying time means a better starting grid position for Sunday's race. As an added bonus, the fastest qualifier for the race earns an extra point toward the season championship.

Friday Qualifying

1 **Qualifying at Miami** On ovals such as Miami's, each car qualifies separately. Qualifying is different for road courses and street circuits; see "Racing a Full Race Season" (**Gameplay Help**, **Help** menu). Start with two warm-up laps to get your car up to speed and ready for qualifying. Watch for the green flag, which signals the start of two timed laps. As you complete each lap, the pit board shows your lap time. A white flag waves at the start of the second timed lap, and a checkered flag signals the end of the qualifying session.

2 **Work on Your Technique** Everyone loves to go fast in the straightaways, but understanding and mastering speed through turns can be even more important on the oval. Practice cutting the corner tight and exiting wide to maximize acceleration and minimize tire wear.

As your cornering skills improve, try to brake later as you enter and accelerate sooner as you exit. Also, find the gear that gives you the most RPMs, while allowing you to steer the turn skillfully using the driving cones.

3 **Make Cockpit Adjustments** To improve car handling and performance, try these cockpit adjustments:

- Increase the weight jacking on the right wheel to get more push through the turns and decrease oversteer, which is particularly helpful on ovals. To add weight to the right wheel, press **8**.
- Change the fuel mixture depending on your race strategy. For a richer fuel mixture and increased power, press **4**; to conserve fuel, press **3**.

4 **Look at Your Qualifying Time** At the end of Friday Qualifying, the **Session Results** screen displays your session stats. The faster of your two qualifying laps is your qualifying time. Compare your best lap to the lead and next fastest cars. If you're not happy with your laps, Saturday Qualifying gives you another chance to improve your grid position. (If you did not complete the timed laps, the results show NQA—No Qualify Attempt.)

5 **Go to the Next Session** After reviewing your results, it's time for the next session. To go straight to Saturday Practice, click **Next Session**.

Note: If you wish, you can forgo Saturday Practice and Saturday Qualifying. On the **Session Results** screen, under **Select Next Session**, click **Sunday Warm-Up,** and then click **Next Session**. Turn to page 22 for information about the Sunday Warm-Up.

Saturday Practice and Qualifying

1 **Plan Race Strategy** Take a few minutes during the Saturday Practice session to review and practice your race strategy. You don't need to lead every lap to win the race (although you get an extra point if you lead the most laps). Plan when you want to take the lead and when you want to hang back.

2 **Watch a Computer Driver Take a Lap** If you're driving poorly, press **K** to get into another driver's car and watch their driving technique.

3 **Get Setup Advice from the Race Engineer** How is your car handling? Are you getting enough speed in the straightaways? Is your car sticking the turns, or are you experiencing understeer (exiting too close to the outside wall on the turns)? When you're ready to end the session, press **ESC**, and then on the **Pause** screen, click **Garage**.

In the **Garage**, click the **Overview tab**. Then click **Race Engineer** and follow the instructions on the screen. You'll need to answer a few questions about how your car performs, and then you'll get advice—provided by Nigel Bennett, *CART Precision Racing* race engineer—on how to improve your car setup.

If you wish to forgo using the **Race Engineer**, here are some general guidelines for how to set up your car for ovals:

- Adjust your car for left turns by increasing the spring rate on the left side, which stiffens the suspension (**Suspension (Corner)** tab).
- Set your tire pressure for top speeds in the straightaways. Start with 30 psi on the left side and 40 psi on the right side (**Tires** tab).
- Increase the wheel stagger setting to get more speed in the turns (**Tires** tab).

Always test drive your latest garage settings, and go back to the garage for additional adjustments, as necessary. To go to the next session when you're finished in the **Garage**, click **Next Session**.

Session Objectives

Saturday Practice and Qualifying work just like the Friday sessions. Take the opportunity during these sessions to plan your race strategy. Watch another driver's technique on the turns. Most importantly, this is your last chance to improve your grid position. And your last chance to earn qualifying points.

You can't afford to ignore your car setup if you want a chance at winning. Take the time to tweak your setup in the Garage. For a fast qualifying time, you'll want to get your tire pressures adjusted just right. Your goal is to find a car setup that will maximize both flat-out speed and cornering ability.

Note: If you skip both Friday and Saturday Qualifying sessions, you'll start the Sunday Race using your driver's real-world starting grid position. If you skip these sessions and your driver was not in the real-world race, you'll start the Sunday Race at the back of the pack.

Session Objectives

Take 15 minutes to warm up your car. This is your last chance to drive the track and check your car setup before the Sunday Race. Also, this is your final opportunity to go to the garage and adjust your car setup. After the Sunday Race starts, you can't make any more changes, except minor in-cockpit adjustments, such as increasing or decreasing tire pressures, which your pit crew can perform.

Sunday Warm-Up

1. **Review the Course One Last Time** Pause the session (**ESC**), and turn to the map of Miami on page 28 of this book. Make certain you know where the passing zones are, and review the recommended gearing for the turns. To help you see where you are on the course while you're racing, press **M**. The game displays a map overlay of the track (your car is the red ball). For information about the symbols on the map overlay, see the *Quick Reference Card.*
2. **Check Your Setup** This is the last opportunity you have before the race begins, to change your car setup. Go to the **Garage** now, before it's too late!
3. **Look at Your Results** After 15 minutes, *Precision Racing* displays the **Session Results** screen with your fastest warm-up lap time. After reviewing your results, it's time for Sunday's race. On the **Session Results** screen, click **Next Session**.

Sunday Race

1 **The Race Is On!** All CART races feature a rolling start with the cars positioned on the grid according to your qualifying position and the *CART Precision Racing* grid positions for the Miami race. The green flag waves when the lead car crosses the starting line. You've got 13 laps (10% of the actual race length) to get yourself in position to win, so remember your race strategy, and race smart!

2 **Driving in Traffic** If you're new to driving in traffic, remember that there are other cars to watch for on the track. Keep an eye on the other drivers. Congested traffic in the turns is a particular problem early in the race. Pass slower cars on the inside. To check out your closest competition, press **I** for picture-in-picture, or if you want to see the race from a different angle, press **V** to change views.

Hint: Beware of other cars exiting the pits, so stay to the outside of the track after Turn 1 where the pit lane merges with the course.

3 **Save That Maneuver!** Don't forget about the instant replay feature. If another driver has good passing technique or you just cornered exceptionally well, press **ESC**, and then click **Instant Replay** to see the maneuver again. You can even save the footage to show to a friend. To return to the race from the **Instant Replay** screen, click **Continue**, and then on the **Pause** screen, click **Resume Session**.

4 **Crashes** If you crash during the race, a yellow flag signals caution on the track. Because **Crash Damage** (**Realism** option) is turned off initially, your car will not sustain any damage. If you turn on this option, only damage that a real-world pit crew can repair is fixed. For a light collision (you can still drive the car), you'll need to drive to the pits for body repair. If the damage is not repairable, your car is removed from the track, and the race ends.

Session Objectives

This is the big day! You want to be the winner (and earn 20 points!), so be alert. Be fast. Be smooth.

There's plenty to learn, and lots of game features to try during this first season race. Find out if you can drive in traffic. Watch replays of your best moments.

Where to Go from Here

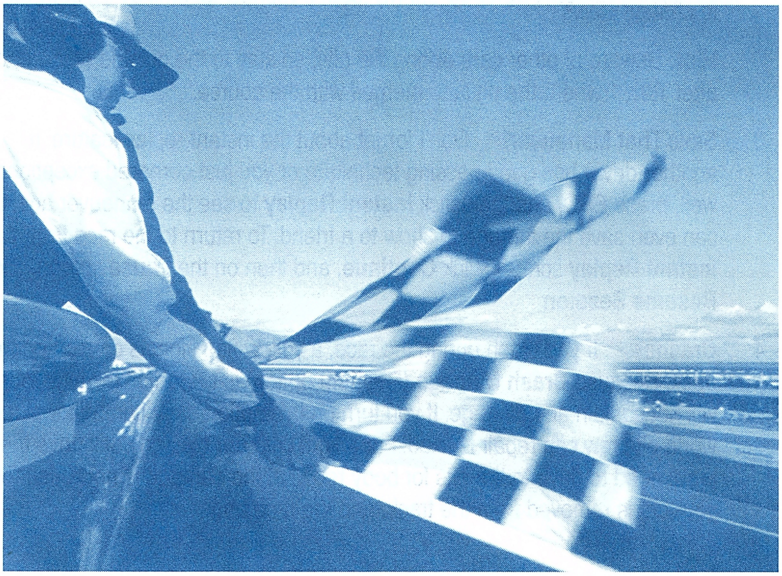
If you want to continue racing after Miami, click Next Session to go straight to the Friday Practice at Australia, or if you want, select another session and track. If you skip a track's Sunday Race, though, you cannot return to that track during the current race season. To quit the game at any time, press ALT+F4. You'll be prompted to save your current race season.

Note: You can restart the game later and resume racing a saved season that you haven't completed. Click Open Race on the Race menu. For more information, see Gameplay Help (Help menu).

5 **The End of the Race** When the first-place driver crosses the finish line, all cars are automatically on their final lap. The race is over when the last driver completes the final lap and crosses the finish line. At this point, the **Session Results** screen displays your race stats. Points are awarded for first through twelfth place.

6 **Hall of Fame** If you want to compare your race stats to the fastest times for the Miami track, click **Hall of Fame** on the **Session Results** screen.

7 **Save This Season Race** If you are happy with your race and want to quit now, click **Save Race** (**Race** menu) to save it. You can reload the season and continue at a later time. Otherwise, continue now with the next session in the season—Friday Practice at Surfers Paradise, Australia.



Victory!

RAHAL
TEXTRON
Shell
HEWLETT PACKARD
BOSCH
Ford

Special thanks to champion CART driver, Bobby Rahal—for the many hours he spent sharing his vast knowledge and technical expertise, which were invaluable in developing this book.

Bobby Rahal's Track Notes

Contents

Miami	28
Australia	29
Long Beach	30
Nazareth	31
Rio de Janeiro	32
St. Louis	33
Milwaukee	34
Detroit	35
Portland	36
Cleveland	37
Toronto	38
Michigan	39
Mid-Ohio	40
Elkhart Lake	41
Vancouver	42
Laguna Seca	43
Fontana	44
1997 Season Schedule	45

Introduction

Whether you're choosing a track for weekend racing or preparing for season play, look here for Bobby Rahal's expert advice on driving the 1997 PPG CART World Series tracks. With three CART championships and many more individual track wins, Bobby Rahal is a true Indy car authority. Read his personal notes for each track, and learn about some of the unique course features. Get valuable tips from Bobby Rahal on gearing, passing, braking, and caution zones, as well as the types of turns on each course.

Round 1: Miami

Location: Metro-Dade Homestead Motorsports Complex, Homestead, Florida

Track Type: 1.517-mile quad-oval; 133 laps

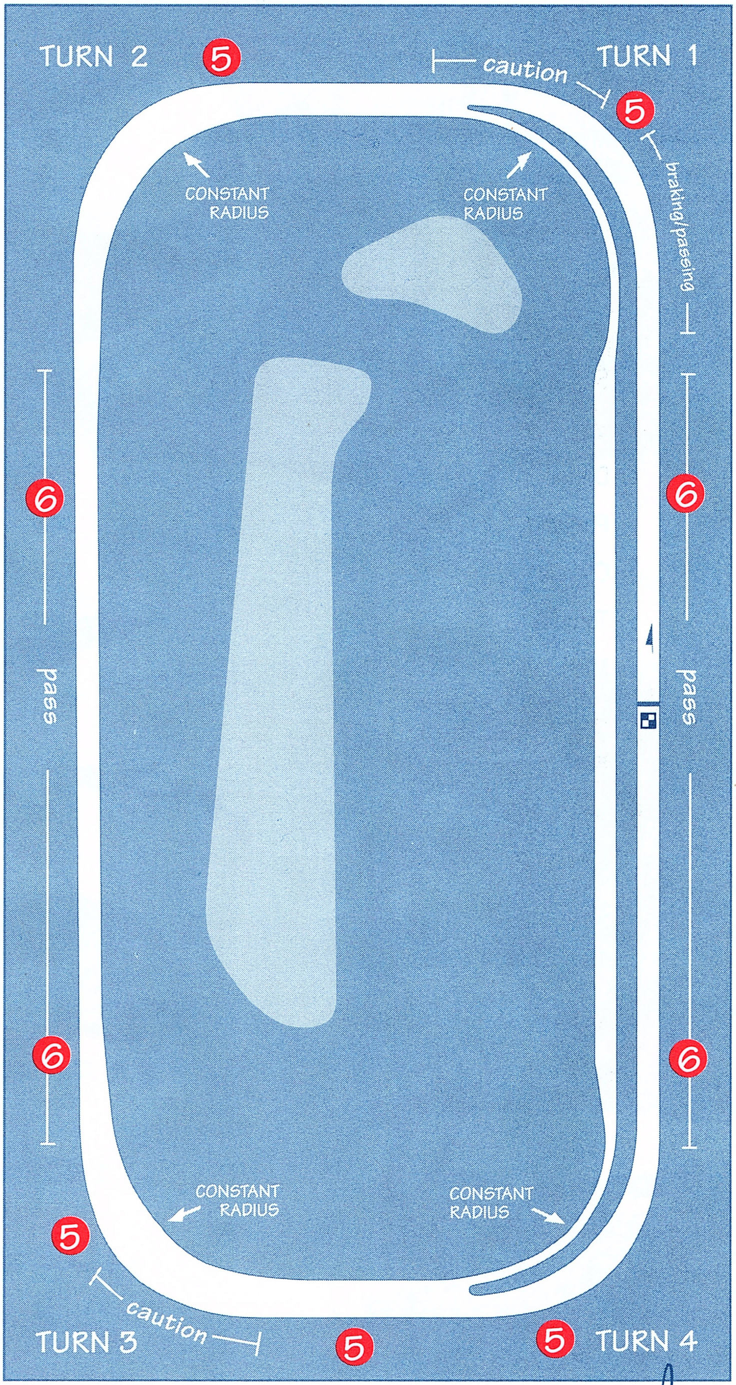
A great spot to test your driving skills, especially at the start of the race season. Miami's four-turn super-speedway means heavy braking in the corners and plenty of wide track for aggressive passing maneuvers.

Racing School Tip: Ovals are more challenging than they seem. If you're new to ovals, check out *Car Control: The Basics* to learn about car handling techniques.

Legend

▚ Start/Finish

① Gearing


TURN 2
5
caution
TURN 1
5
CONSTANT RADIUS
CONSTANT RADIUS
braking/passing
6
6
pass
pass
6
6
CONSTANT RADIUS
CONSTANT RADIUS
5
caution
TURN 3
5
5
TURN 4

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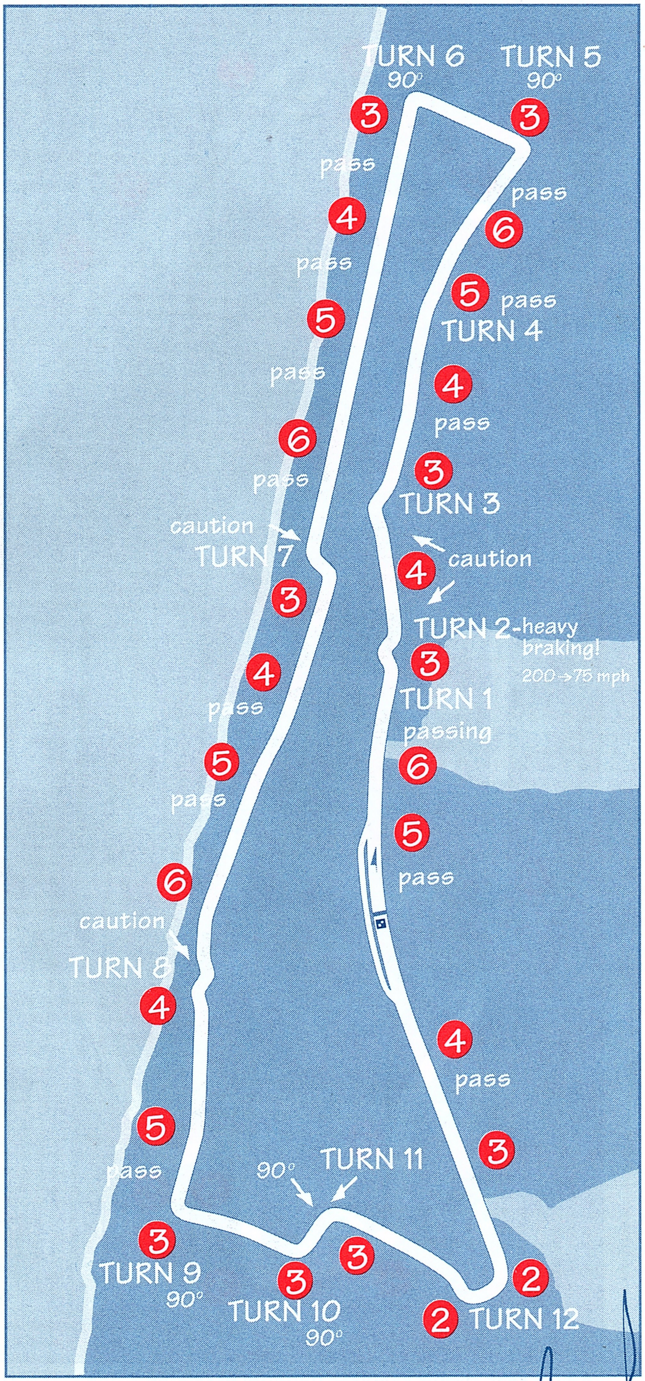
TURN 6
90°
TURN 5
90°
3
3
pass
pass
4
6
pass
5
pass
5
TURN 4
pass
4
pass
6
3
pass
TURN 3
caution
TURN 7
4
caution
3
TURN 2-heavy braking!
200→75 mph
4
3
pass
TURN 1
passing
5
6
pass
5
pass
6
caution
TURN 8
4
4
pass
5
3
pass
TURN 11
90°
3
3
TURN 9
90°
3
TURN 10
90°
2
2
TURN 12

Round 2: Australia

Location: Surfers Paradise, Australia

Track Type: 2.794-mile temporary street course; 65 laps

Wind through the downtown streets of Queensland. Just when you get some serious speed built up on the long straightaways, be ready for lots of tight turns, which make this course an awesome contest of speed and intensity.

Racing School Tip: To tackle the twists and turns of Australia's four treacherous chicanes, see *Types of Corners.*

Legend

▨ Start/Finish

① Gearing

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Round 3:
Long Beach

Location: Long Beach, California

Track Type: 1.59-mile temporary street course; 105 laps

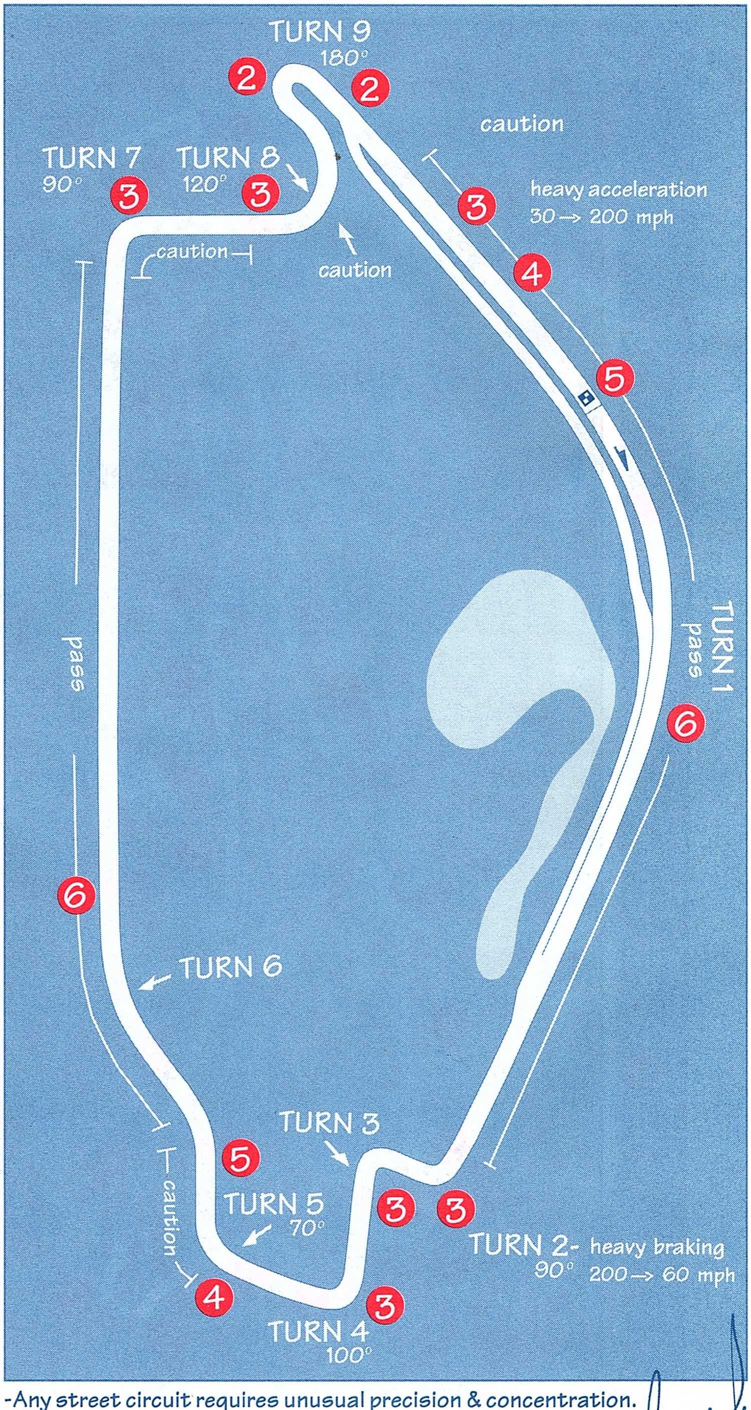
Long Beach's tree-lined streets are the sunny locale for this popular street circuit. Expect close competition, with plenty of long straightaways and tight turns. Brake hard for the tough hairpin coming into the pits. Keep your eyes wide open in the backstretch, a favorite passing zone.

Racing School Tip: If you want to overtake the competition, practice your *Passing Techniques.*

Legend

▦ Start/Finish

① Gearing


TURN 9
180°
② ②
caution
TURN 7
90°
③
TURN 8
120°
③
③ heavy acceleration
30 → 200 mph
④
⑤
caution
caution
pass
TURN 1
pass
⑥
⑥
TURN 6
⑤
TURN 3
caution
TURN 5
70°
③ ③
TURN 2- heavy braking
90° 200 → 60 mph
④
③
TURN 4
100°

-Any street circuit requires unusual precision & concentration.

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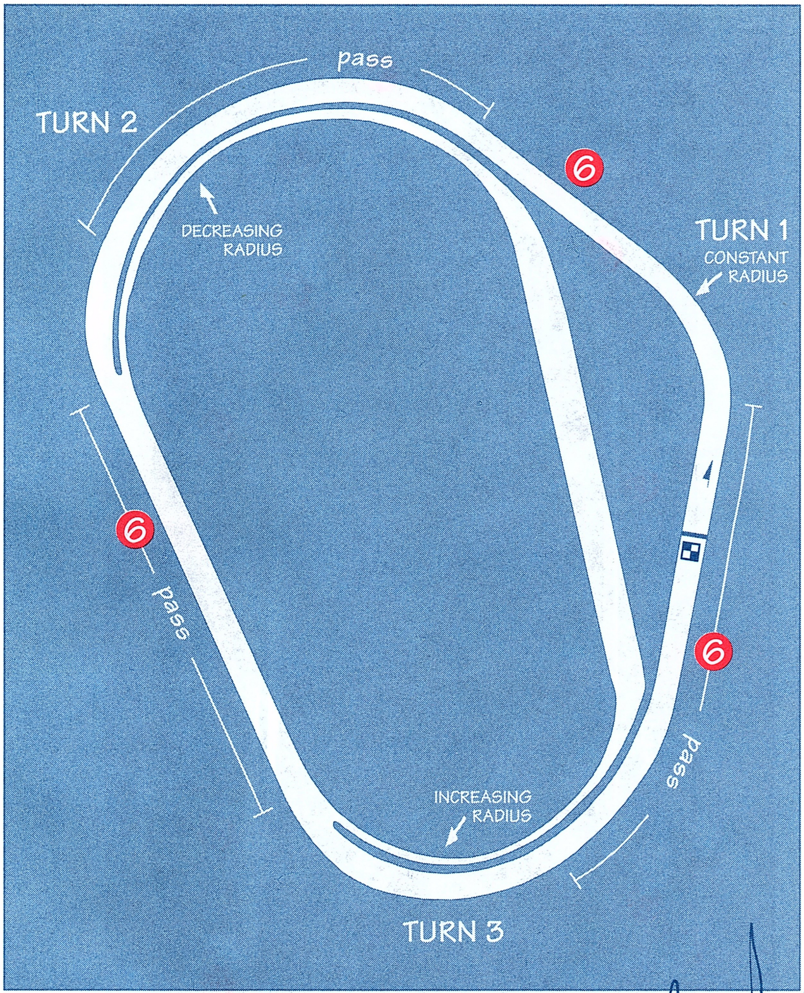
pass
TURN 2
6
DECREASING RADIUS
TURN 1
CONSTANT RADIUS
6
pass
6
pass
INCREASING RADIUS
TURN 3

-All ⑥ gear.
-Extremely fast & narrow: difficult to pass.
-Caution everywhere!
-Turn 2 is uphill & blind at exit.
-Turn 3's approach is downhill

Round 4: Nazareth

Location: Nazareth Speedway, Nazareth, Pennsylvania

Track Type: 1-mile tri-oval; 200 laps

Wide, sweeping curves make this a perfect practice course for new drivers. But don't be deceived—this three-corner oval is a favorite top-speed challenge for even the most experienced drivers. Expect lots of passing and side-by-side racing.

Racing School Tip: If you want to learn the "slow in, fast out" approach that'll have you cornering like the CART pros, see *Cornering Concepts.*

Legend

▨ Start/Finish
① Gearing

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Round 5:
Rio de Janeiro

Location: Emerson Fittipaldi Speedway, Rio de Janeiro, Brazil

Track Type: 1.864-mile oval; 133 laps

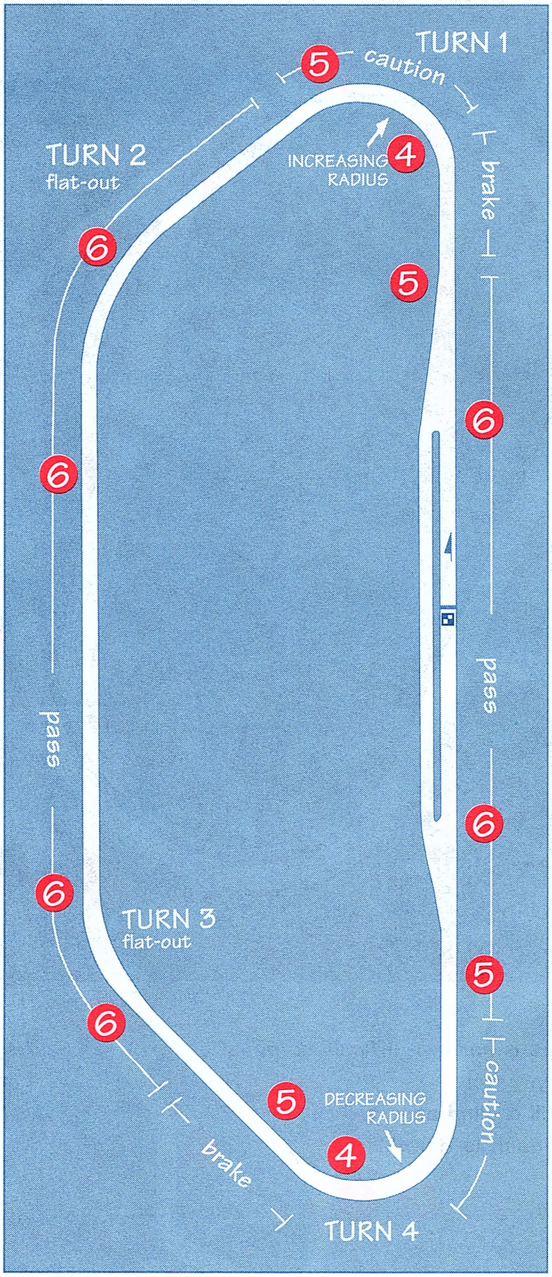
Emerson Fittipaldi Speedway is impressive! Certainly not your traditional oval—long straightaways followed by exceptionally tight corners—it will have you believing you're on a road course. (A hybrid road-course oval car setup works best.) Be ready to brake hard and gear down through Turns 1 and 4. Don't miss this one!

Racing School Tip: With *Braking Techniques*, you'll be ready for the tightest corners.

Legend

▨ Start/Finish

① Gearing



TURN 1
5
caution
4
INCREASING RADIUS
brake
5
TURN 2
flat-out
6
6
6
pass
pass
6
6
TURN 3
flat-out
5
6
5
DECREASING RADIUS
4
caution
brake
TURN 4

-Must find best compromise of straightline speed with downforce.
-Do not run maximum short-oval wing setting.
-Set car up like road course: corners are rough & unbanked.

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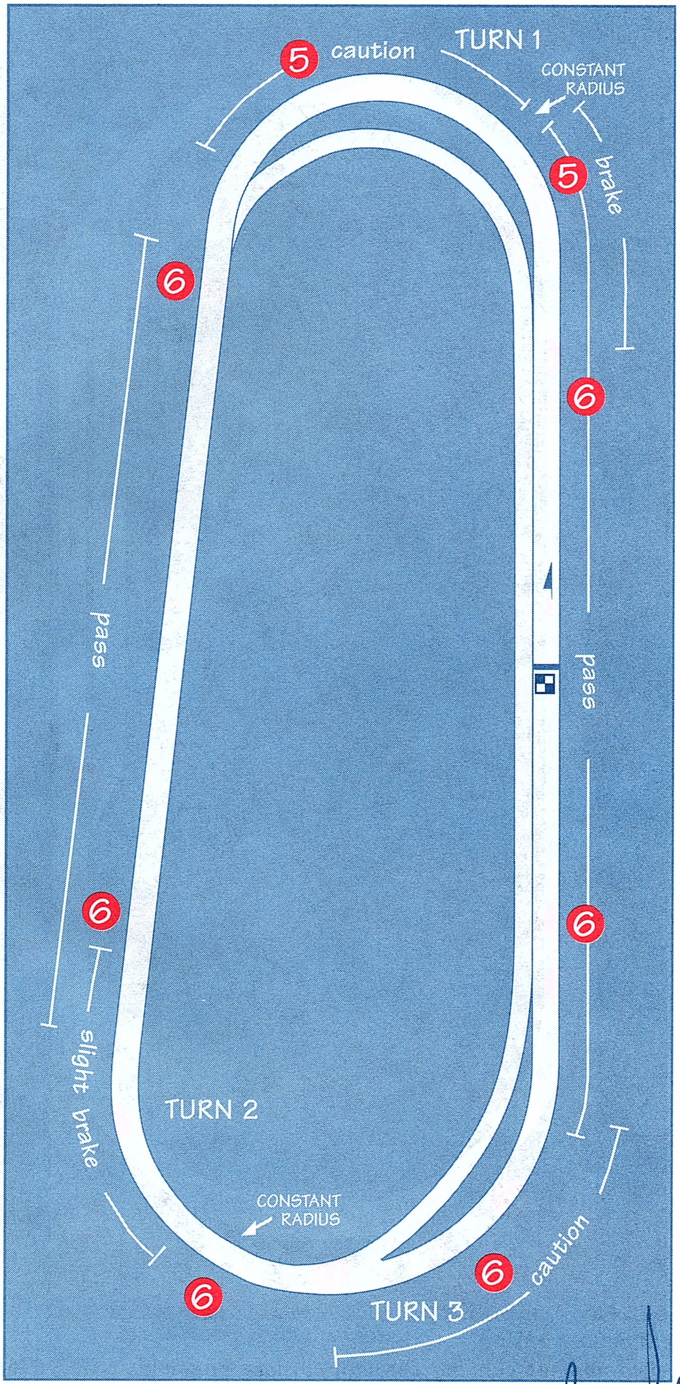
5
caution
TURN 1
CONSTANT RADIUS
5
brake
6
6
pass
pass
6
6
slight brake
TURN 2
CONSTANT RADIUS
6
caution
6
TURN 3

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Round 6:
St. Louis

Location: Gateway International Raceway, Madison, Illinois

Track Type: 1.25-mile oval; 240 laps

This oval's unique egg shape is perfect for drivers who love wide, sharp turns. The track features distinctive 11-degree and 9-degree banked corners. Shorter than the two-mile ovals at Michigan and Fontana, this track still offers plenty of thrills for those who crave speed.

Legend

▚	Start/Finish
● 1	Gearing

Round 7: Milwaukee

Location: The Milwaukee Mile, West Allis, Wisconsin

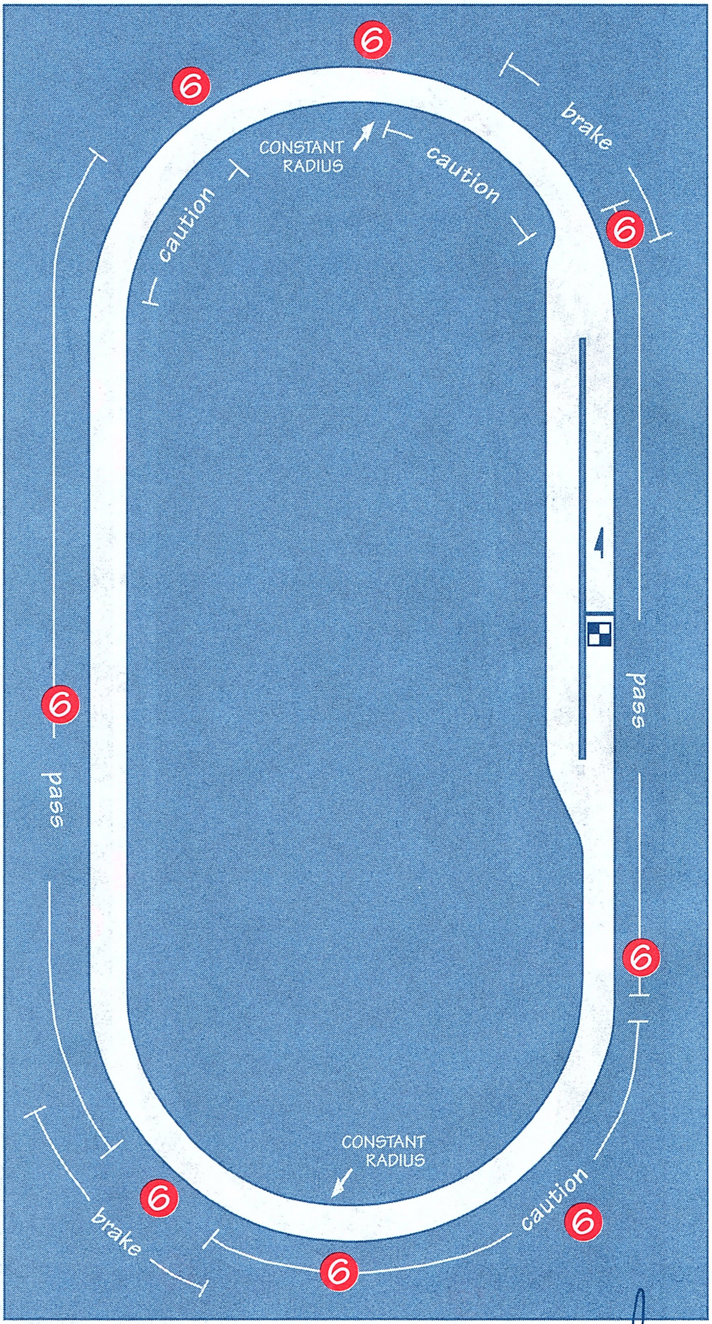
Track Type: 1-mile oval; 200 laps

Watch for the checkered flag—this race goes by fast! With qualifying times of less than 21 seconds per lap, it's no surprise that this oval is one of the most popular tracks in the PPG CART World Series.

Legend

▦ Start/Finish

① Gearing


6
6
brake
CONSTANT RADIUS
caution
caution
6
pass
6
pass
6
CONSTANT RADIUS
6
brake
caution
6
6

-Minimal banking.
-Two-abreast running through corners possible.

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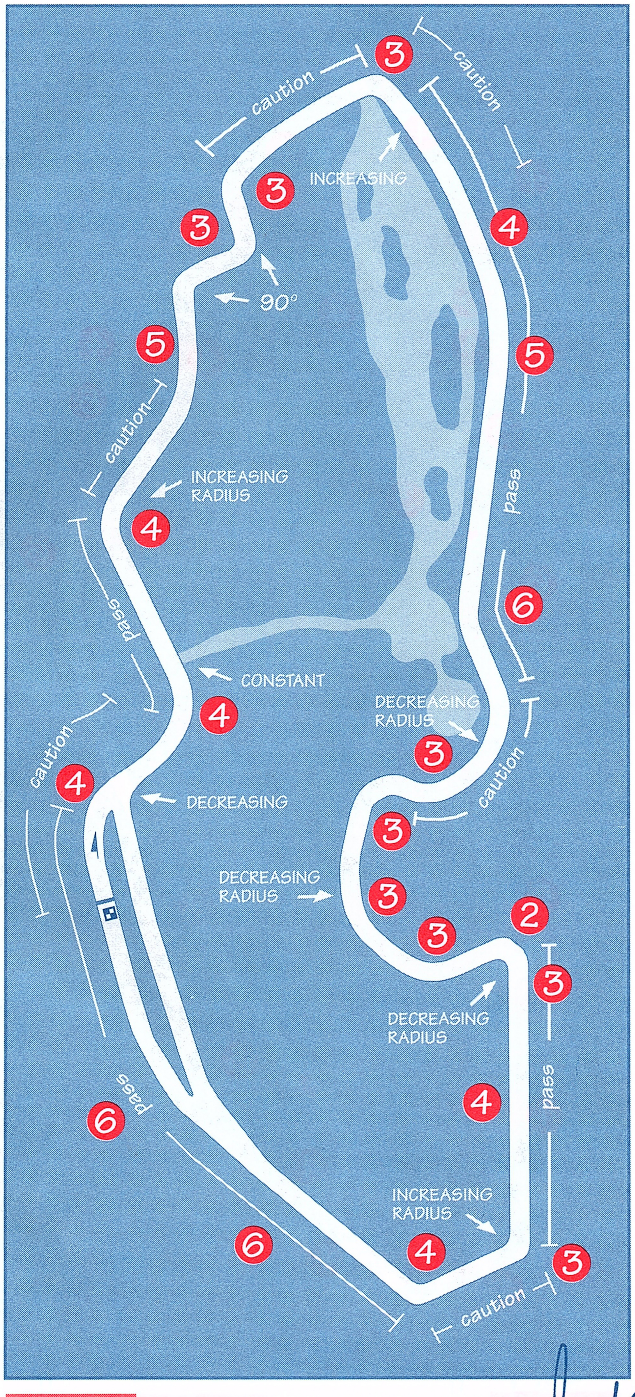

3
caution
caution
INCREASING
3
3
4
90°
5
5
caution
INCREASING RADIUS
4
pass
pass
6
CONSTANT
4
DECREASING RADIUS
3
caution
4
DECREASING
3
DECREASING RADIUS
3
3
2
3
DECREASING RADIUS
pass
4
pass
6
6
INCREASING RADIUS
4
3
caution

RACER MAGAZINE

Round 8: Detroit

Location: The Raceway on Belle Isle, Detroit, Michigan

Track Type: 2.1-mile temporary street course; 77 laps

Considered one of the most difficult courses on the schedule, the Detroit race demands absolute concentration. With the constant threat of the concrete and tire barriers looming at every turn, there's no room for mistakes. Expect a true test of your driving ability. Detroit's 14 turns definitely favor the technically skilled driver.

Racing School Tip: You'll definitely want to review increasing-radius and decreasing-radius corners before racing this track. See *Types of Corners.*

Legend

▚ Start/Finish

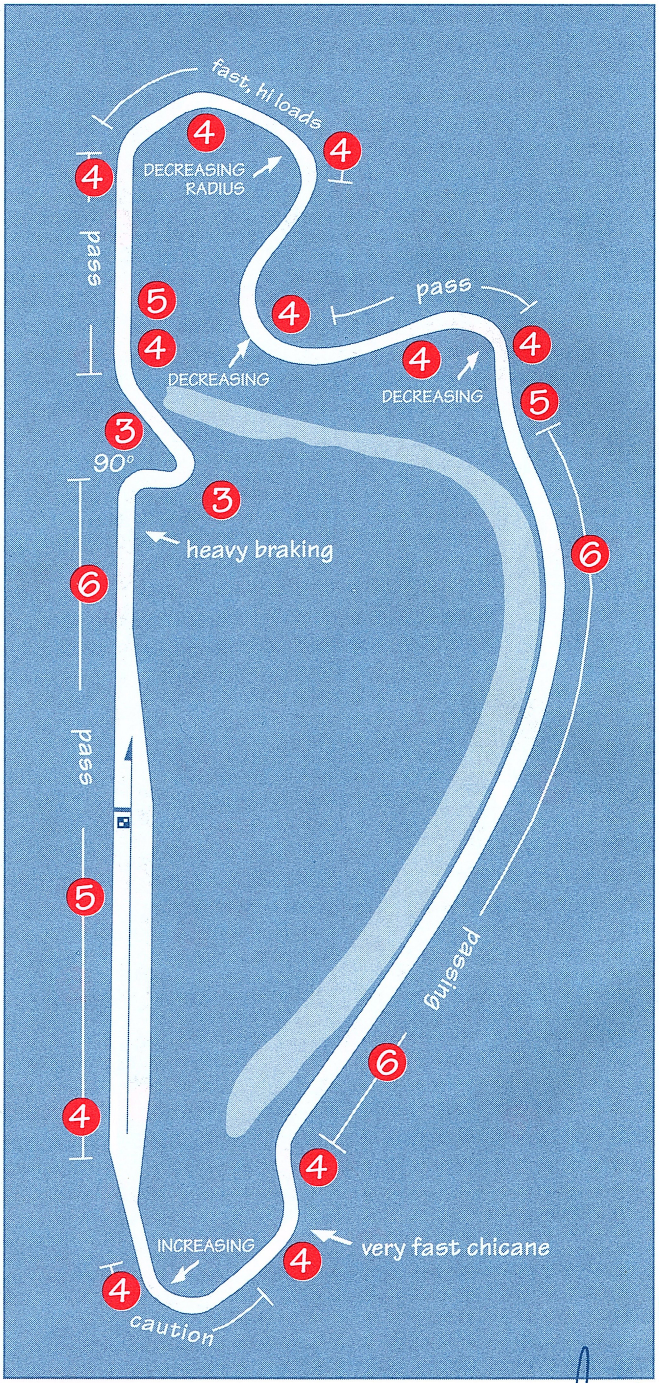
① Gearing

Round 9: Portland

Location: Portland International Raceway, Portland, Oregon

Track Type: 1.95-mile permanent road course; 98 laps

If you're looking for variety, this road course has it all—flat, fast track with plenty of twists and turns thrown into the mix. With its combination of long straightaways and close corners, expect to make garage adjustments to balance the need for both speed and precise handling.

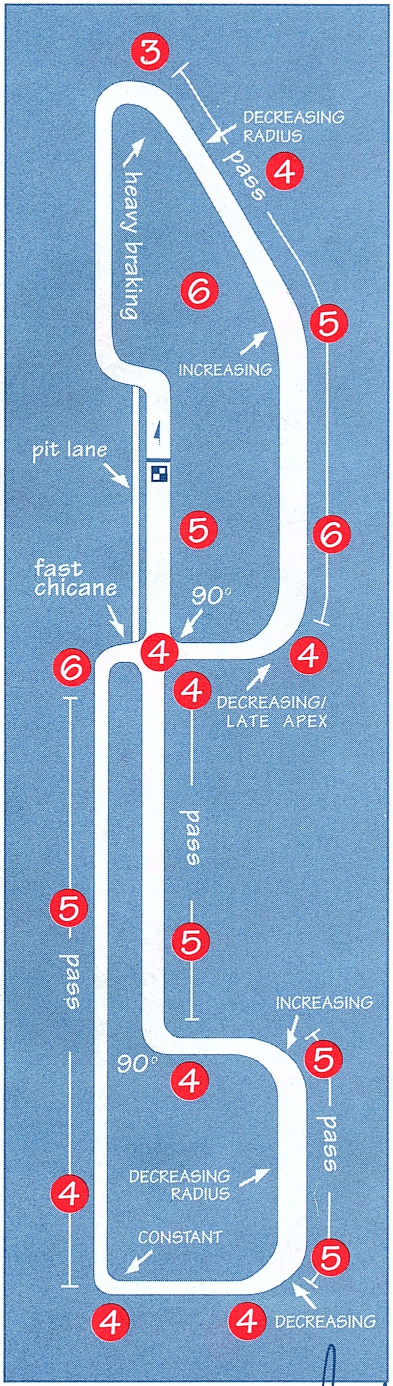

fast, hi loads
4
4
4
DECREASING RADIUS
pass
5
4
4
pass
4
4
5
DECREASING
DECREASING
3
90°
3
heavy braking
6
6
pass
5
passing
6
4
4
4
very fast chicane
INCREASING
4
caution

Legend

▨ Start/Finish

① Gearing

RACER MAGAZINE


3
DECREASING RADIUS
pass
4
heavy braking
6
5
INCREASING
pit lane
5
6
fast chicane
90°
4
6
4
4
DECREASING/ LATE APEX
pass
5
pass
5
INCREASING
5
90°
4
pass
4
DECREASING RADIUS
CONSTANT
5
4
4
DECREASING

RACER MAGAZINE

Round 10: Cleveland

Location: Burke Lakefront Airport, Cleveland, Ohio

Track Type: 2.369-mile temporary road course; 90 laps

What could be more exciting—racing on a fully-operational airfield—speeding down the long runways, with several 90-degree turns for plenty of white-knuckle driving.

Racing School Tip: To master Cleveland's tight turns, see *Types of Corners.*

Legend

▨ Start/Finish

① Gearing

Round 11: Toronto

Location: Canadian National Exhibition Place, Toronto, Ontario, Canada

Track Type: 1.784-mile temporary street course; 98 laps

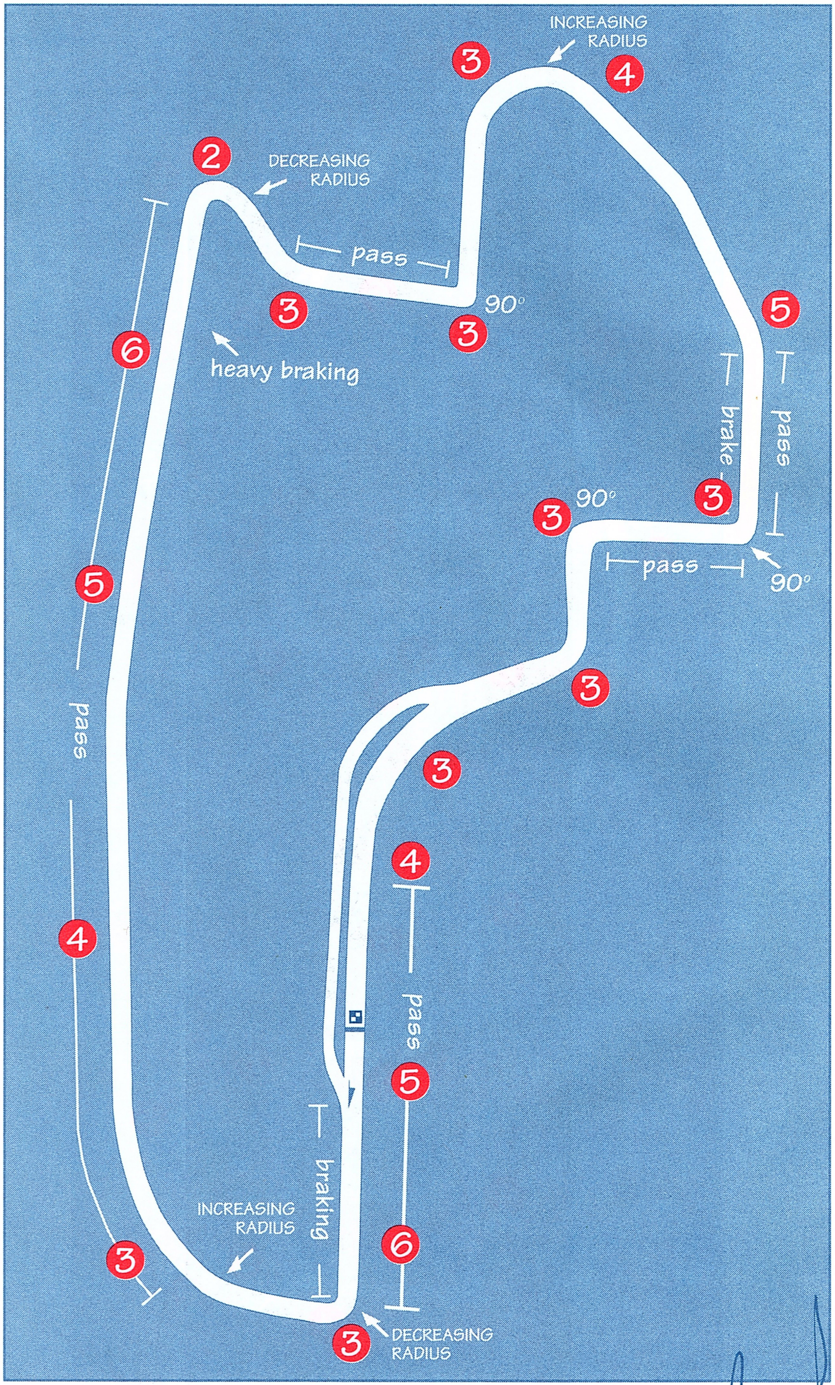
With numerous turns packed into less than two miles of pavement, Toronto is truly a challenge for even the most skilled drivers. There's no time to relax—you'll want to carry as much speed as possible out of the turns in order to overtake your competition on the brief straightaways.

Racing School Tip: Take this opportunity to review *The Cornering Sequence* so you're ready for quick acceleration out of the turns.

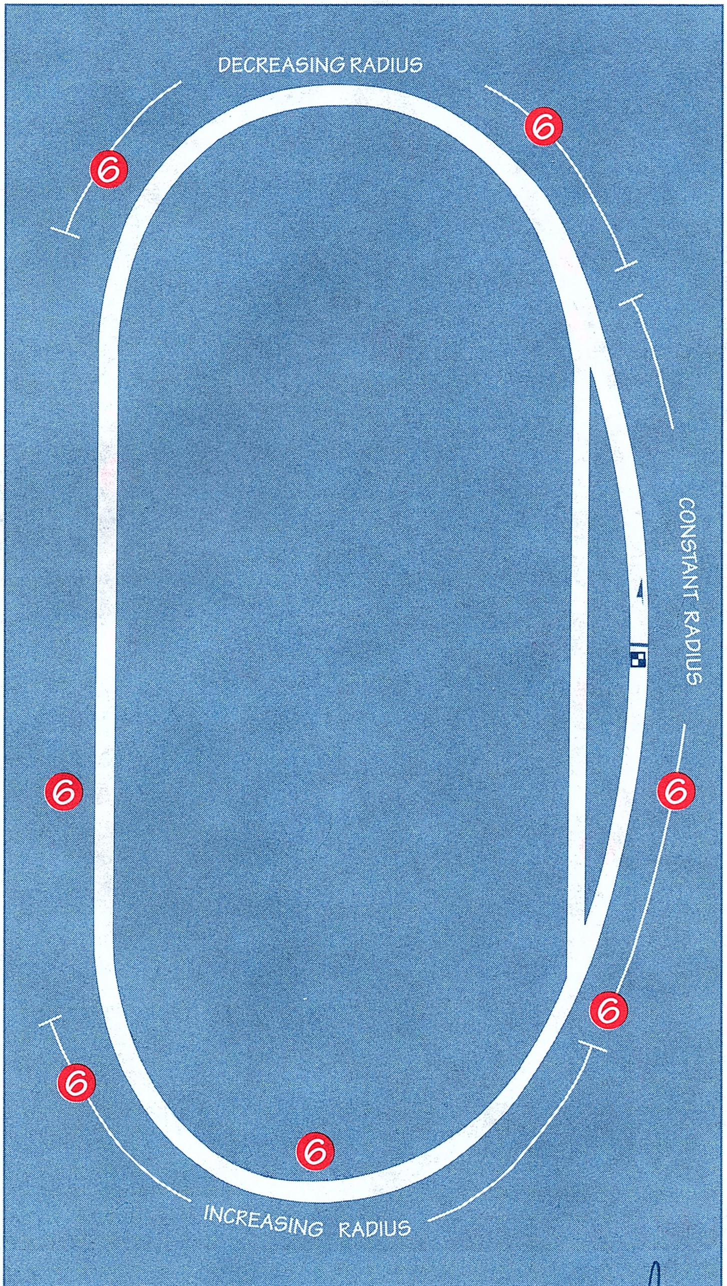
Legend

▚ Start/Finish

① Gearing


INCREASING RADIUS
3
4
2
DECREASING RADIUS
pass
3
3
90°
5
6
heavy braking
brake
pass
3
90°
3
pass
90°
5
3
3
pass
4
4
pass
5
braking
INCREASING RADIUS
6
3
3
DECREASING RADIUS

RACER MAGAZINE



-Passing possible everywhere.
-Caution everywhere!
-Extremely fast!

RACER
MAGAZINE

Round 12: Michigan

Location: Michigan Speedway, Brooklyn, Michigan

Track Type: 2-mile D-shaped oval; 250 laps

If you want an adrenaline rush, this track ranks second to none in pure speed. Considered the fastest oval in the PPG CART World Series, Michigan's high-banking turns and super-fast straightaways mean lots of side-by-side action at speeds exceeding 240 mph.

Racing School Tip: When you hit the superspeedways like Michigan, finding and holding your racing line is key to a successful race. See *Finding the Racing Line.*

Legend

▦ Start/Finish
① Gearing

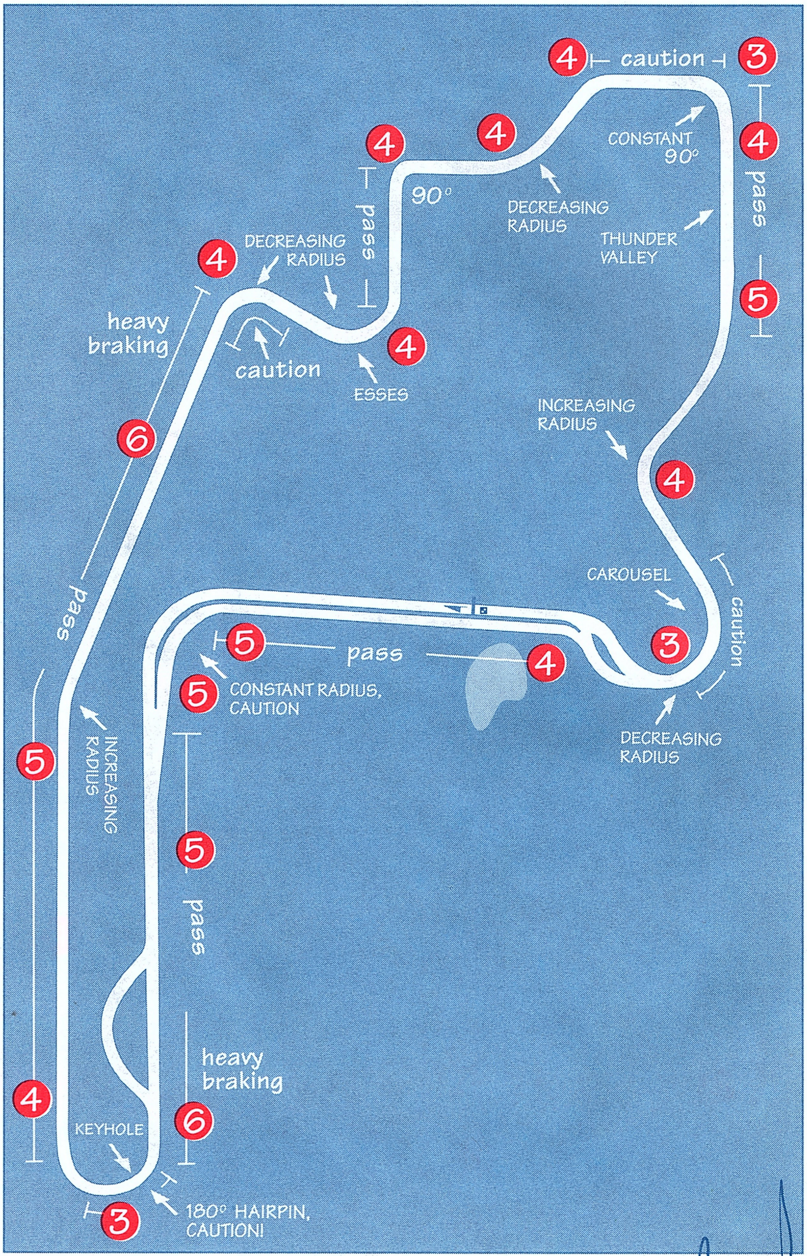
Round 13: Mid-Ohio

Location: Mid-Ohio Sports Car Course, Lexington, Ohio

Track Type: 2.25-mile permanent road course; 83 laps

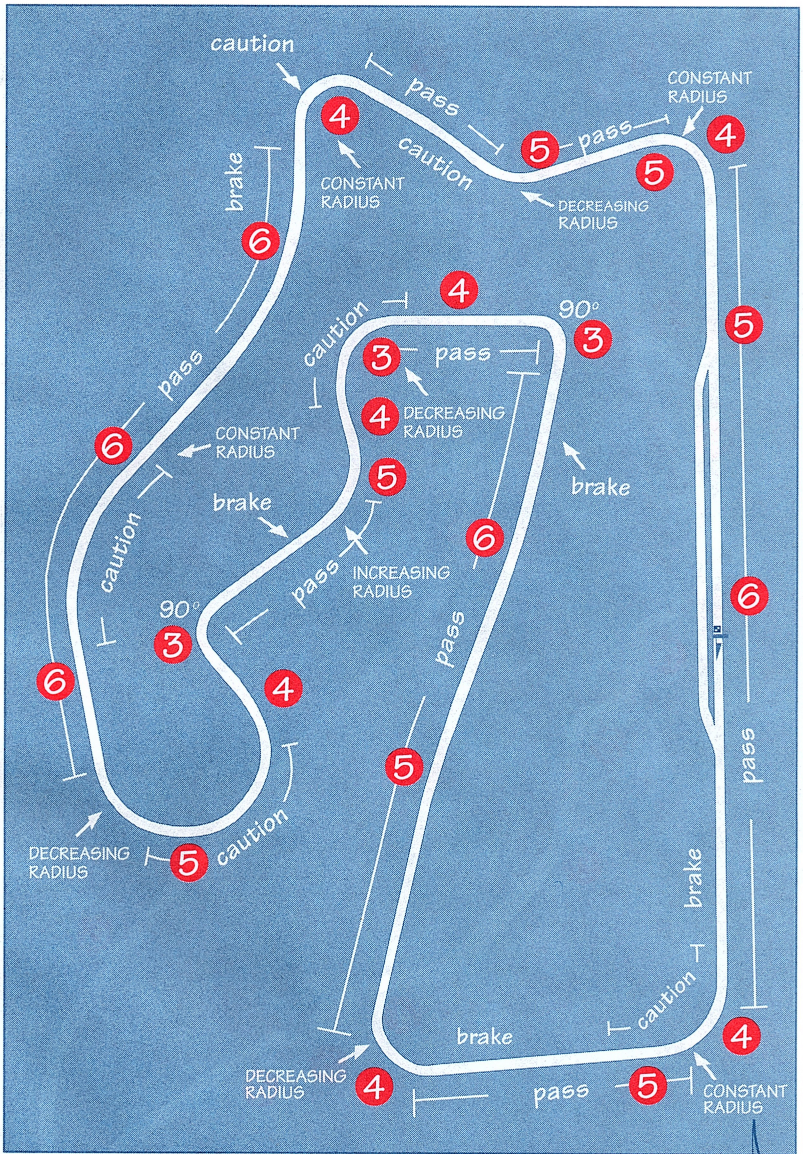
If you're looking for an awesome driving adventure, this track's the one! Mid-Ohio offers spectacular landmarks—the Keyhole, Thunder Valley, Carousel, the Esses. Its 13 turns test even the most veteran racer's technical skill and cornering ability.

Racing School Tip: If you want to hone your cornering skills for Mid-Ohio, study *Cornering Concepts* and *The Cornering Sequence*. Then, graduate to *Types of Corners* and *Braking Techniques.*


4
caution
3
CONSTANT 90°
4
pass
4
4
90°
DECREASING RADIUS
THUNDER VALLEY
5
4
DECREASING RADIUS
pass
heavy braking
caution
4
ESSES
INCREASING RADIUS
6
4
CAROUSEL
caution
pass
5
pass
4
3
5
CONSTANT RADIUS, CAUTION
DECREASING RADIUS
5
INCREASING RADIUS
5
pass
heavy braking
4
KEYHOLE
6
3
180° HAIRPIN, CAUTION!

Legend

- ▚ Start/Finish
- ① Gearing


caution
pass
CONSTANT RADIUS
4
4
5
pass
caution
5
brake
CONSTANT RADIUS
DECREASING RADIUS
6
4
90°
3
caution
3
pass
5
4
DECREASING RADIUS
pass
CONSTANT RADIUS
6
5
brake
brake
caution
6
pass
INCREASING RADIUS
90°
3
pass
6
4
6
5
DECREASING RADIUS
5
caution
pass
brake
caution
brake
4
DECREASING RADIUS
4
pass
5
CONSTANT RADIUS

Round 14: Elkhart Lake

Location: Road America, Elkhart Lake, Wisconsin

Track Type: 4-mile permanent road course; 50 laps

Elkhart Lake is pure driving pleasure. This course is predominantly long straightaways with gradual curves and plenty of room to maneuver. The miles go by very quickly on this beautiful four-mile track, so don't forget to pit.

Legend

▚ Start/Finish

① Gearing

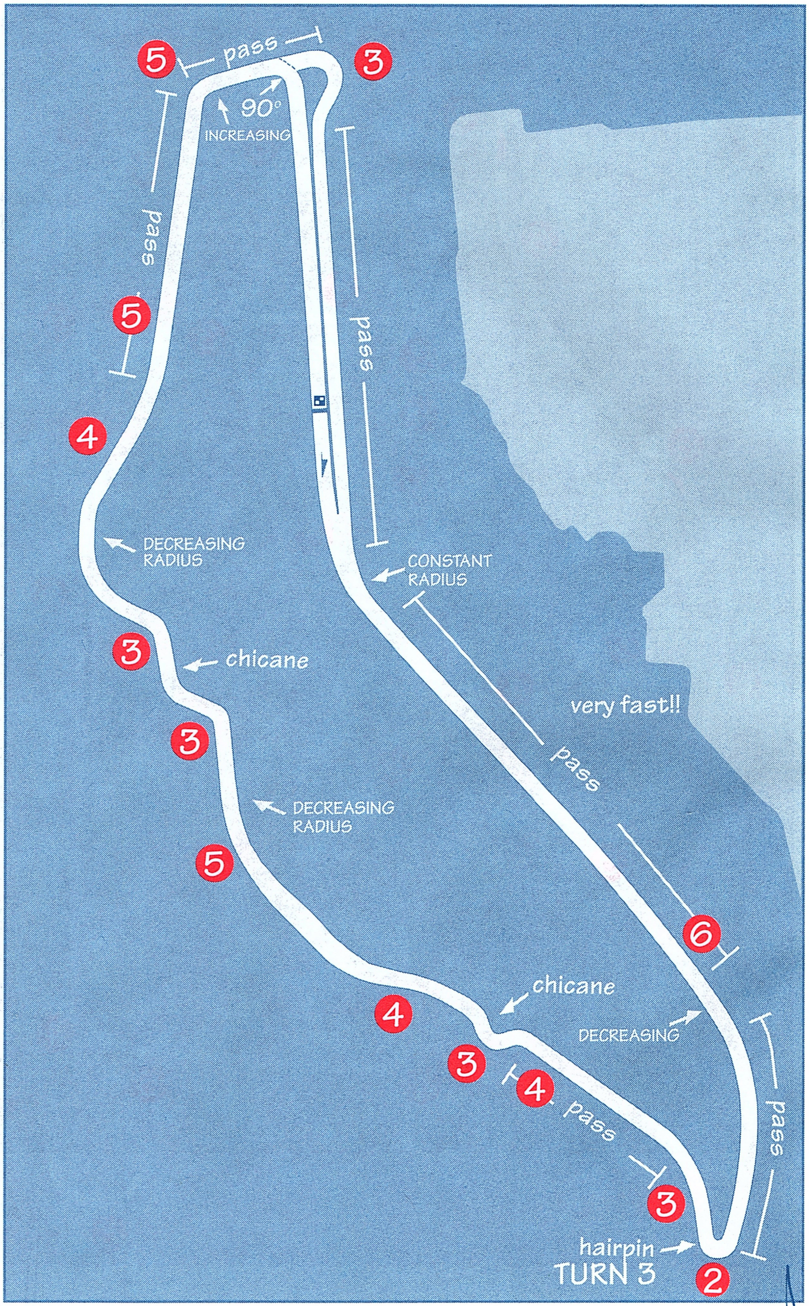
Round 15: Vancouver

Location: Concord Pacific Place, Vancouver, British Columbia, Canada

Track Type: 1.703-mile temporary street course; 100 laps

Don't miss a race at Vancouver! This fast, winding street circuit delivers plenty of excitement. Expect substantial braking and gear shifting in the tight turns, especially the hairpin at Turn 3.

Racing School Tip: For expert advice on handling a hairpin, see *Types of Corners*.


5
pass
3
90°
INCREASING
pass
5
pass
4
DECREASING RADIUS
CONSTANT RADIUS
3
chicane
very fast!!
3
pass
DECREASING RADIUS
5
6
chicane
4
DECREASING
3
4
pass
pass
3
hairpin
TURN 3
2

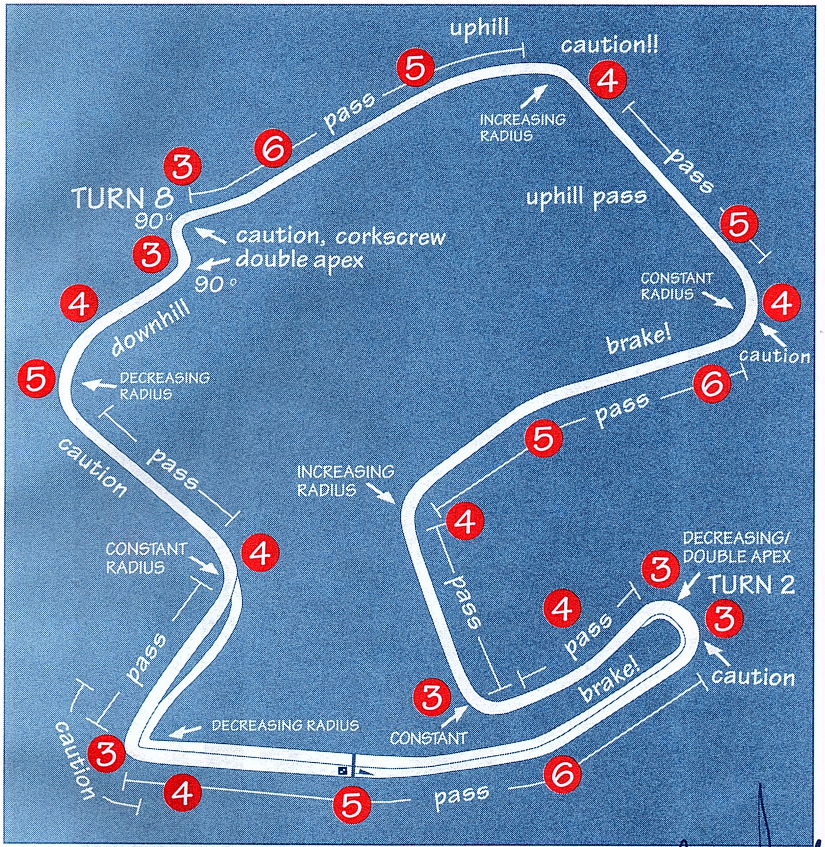
-Caution everywhere!

Legend

▨ Start/Finish

① Gearing

RACER MAGAZINE



uphill
caution!!
5
4
pass
INCREASING RADIUS
6
3
TURN 8
90°
caution, corkscrew
double apex
90°
3
pass
uphill pass
5
4
CONSTANT RADIUS
4
downhill
brake!
caution
5
DECREASING RADIUS
6
pass
5
caution
pass
INCREASING RADIUS
4
CONSTANT RADIUS
4
DECREASING/ DOUBLE APEX
3
TURN 2
pass
4
pass
3
brake!
caution
pass
3
CONSTANT
DECREASING RADIUS
caution
3
4
5
pass
6

Round 16: Laguna Seca

Location: Laguna Seca Raceway, Monterey, California

Track Type: 2.238-mile permanent road course; 83 laps

Test your cornering skills on the Andretti Hairpin (Turn 2) and the infamous Corkscrew (Turn 8)—two of the many twists and turns in this incredibly challenging 11-turn road course through the dry Monterey hills. Don't lose too much corner speed through Turn 11; your ability to pass or make up ground on the following straightaway hangs on a perfect exit.

Racing School Tip: Even the pros need a little extra practice after seeing the corners on this course. Revisit *Cornering Concepts* and *Types of Corners.*

Legend

▩ Start/Finish

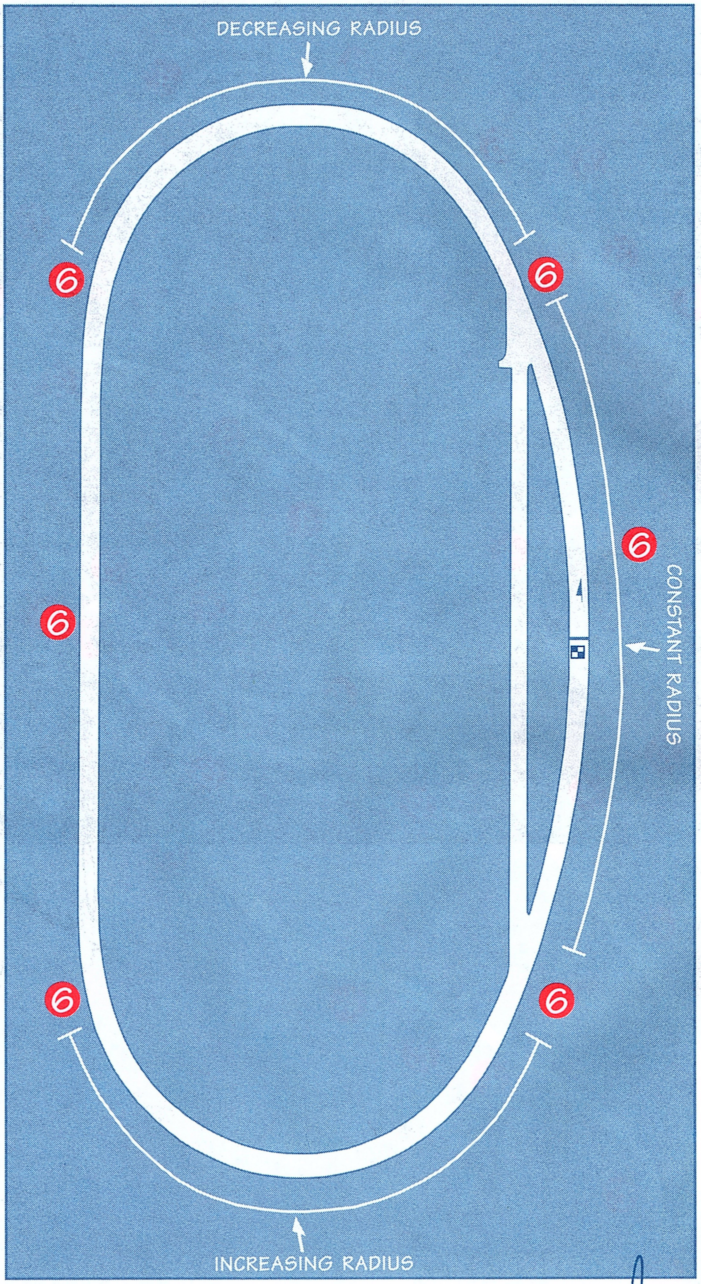
① Gearing

Round 17: Fontana

Location: California Speedway, Fontana, California

Track Type: 2-mile oval; 250 laps

If you like to drive at breakneck speeds, this track will undoubtedly be at the top of your favorites list. Modeled after its super-fast sister speedway in Michigan, Fontana's newly constructed oval is unbelievably fast from start to finish.


DECREASING RADIUS
6
6
6
6
CONSTANT RADIUS
6
6
INCREASING RADIUS

-Passing possible everywhere.
-Caution everywhere!
-Extremely fast track.

RACER MAGAZINE

Legend

🏁	Start/Finish
①	Gearing

1997 Season Schedule

1997 PPG CART World Series Schedule

Round number	Race name	1997 Race date
1	Miami	March 2
2	Australia	April 6
3	Long Beach	April 13
4	Nazareth	April 27
5	Rio de Janeiro	May 11
6	St. Louis	May 24
7	Milwaukee	June 1
8	Detroit	June 8
9	Portland	June 22
10	Cleveland	July 13
11	Toronto	July 20
12	Michigan	July 27
13	Mid-Ohio	August 10
14	Elkhart Lake	August 17
15	Vancouver	August 31
16	Laguna Seca	September 7
17	Fontana	September 28

Index

180-degree turns, Long Beach 30
  See also turns: Mid-Ohio, Vancouver
90-degree turns, Australia 29
  See also turns: Cleveland, Detroit, Elkhart Lake, Laguna Seca, Long Beach, Mid-Ohio, Portland, Toronto, Vancouver

A

Accelerate 2
Accidents *See* Crashes
Andretti Hairpin, Laguna Seca 43
Australia
  braking, caution, and passing zones 29
  gearing 29
  race date 45
  turns 29
Autopilot 4, 19
Auto-Shift 2

B

Belle Isle, The Raceway on *See* Detroit
Bennett, Nigel *See* Race engineer
Bobby Rahal
  Racing School commentary 5
  Track Notes 4, 27–44
Boost pressure 3
Braking
  Braking Techniques, Racing School 32, 40
  game control 2
Brazil *See* Rio de Janeiro
Burke Lakefront Airport *See* Cleveland

C

California
  Fontana 44
  Laguna Seca 43
  Long Beach 30
California Speedway *See* Fontana
Canada
  Toronto 38
  Vancouver 42
Canadian National Exhibition Place *See* Toronto
Cars
  Car Control: The Basics, Racing School 28
  choosing a car and driver 8
  damage 23
  driving 2
  garage adjustments 14
  oversteer 20
  setups 14, 21, 22
  spring rate 21
  suspension 21
  tire pressure 21
  weight jacking 20
  wheel stagger 21
CART *See* PPG CART World Series
Caution zones, legend 11
Chicanes, Australia 29
  See also turns: Cleveland, Portland, Vancouver
Cleveland
  braking, caution, and passing zones 37
  gearing 37
  race date 45
  turns 37
Cockpit adjustments 20
Cockpit view 3
  See also Dashboard
  See also Views
Collision *See* Crashes
Concord Pacific Place *See* Vancouver
Constant radius turns, Cleveland 37
  See also turns: Detroit, Elkhart Lake, Fontana, Laguna Seca, Miami, Michigan, Mid-Ohio, Milwaukee, Nazareth, St. Louis, Toronto, Vancouver
Corkscrew, Laguna Seca 43
Cornering Concepts, Racing School 31, 40, 43
Cornering Sequence, Racing School 38, 40

- Corners *See* Turns
- Crashes 23
  - *See also* Damage, Realism setting

D

- Damage, Realism setting 13, 23
- Dashboard
  - description 3
  - indicators and lights 3
  - *Quick Reference Card* 4
- Decreasing radius turns, Cleveland 37
  - *See also turns:* Detroit, Elkhart Lake, Fontana, Laguna Seca, Michigan, Mid-Ohio, Nazareth, Portland, Rio de Janeiro, Toronto, Vancouver
- Detroit
  - braking, caution, and passing zones 35
  - gearing 35
  - race date 45
  - turns 35
- Double apex turns, Laguna Seca 43
- Driver Info screen 9
- Drivers
  - 1997 teams and drivers 8
  - bios 9
  - career highlights 9
  - choosing a car and driver 8
  - field size 13
  - grid position 9, 10, 11
  - stats 9
  - wins and poles 9
- Drivers screen
  - 1997 teams and drivers 8
  - driving aids 8
  - player settings 8
- Driving Aids
  - *See also* F2 key
  - accessing dialog box 8
  - changing settings 12
- Driving Aids *(continued)*
  - deleting settings 12
  - *Quick Reference Card* 4
  - skill levels 12
- Driving cones 19
- Driving controls *See* Game controls
- Driving skills 1, 17

E

- Elkhart Lake
  - braking, caution, and passing zones 41
  - gearing 41
  - race date 45
  - turns 41
- Emerson Fittipaldi Speedway *See* Rio de Janeiro
- ESC key 2, 4, 19, 21
  - *See also* Pause game

F

- F1 key 2, 3, 4, 19
  - *See also* Game Controls Help
  - *See also* Help
- F2 key 12
  - *See also* Driving Aids
- F3 key 13
  - *See also* Realism
- First-place driver 24
- Flag conditions 3
  - checkered 20
  - green 2, 20, 23
  - white 20
  - yellow 23
- Florida *See* Miami
- Fontana
  - braking, caution, and passing zones 44
  - gearing 44
  - race date 45
  - turns 44

Friday Practice 15, 18–19
Friday Qualifying 15, 20
Fuel level 3
Full race season *See* Race season

G

Game controls
- *See also* Game Controls Help
- command 2
- game pad 2
- joystick 2
- keyboard 2
- *Quick Reference Card* 4
- race car controller 2

Game Controls Help
- description 4
- F1 key 2,3, 4, 19

Game pad controls 2
Gameplay Help 4
Garage
- car setups 14, 21, 22
- choosing garage settings 21
- deleting settings 14
- race engineer 14, 21
- saving settings 14
- using default settings 14

Garage screen
- current settings 14
- garage tabs 14
- race engineer 14, 21
- test drive 14, 21

Gateway *See* St. Louis
Gears 3
- *See also gearing for specific track*

Getting help *See* Help
Grid positions
- choosing starting positions 11
- current positions, Session Results screen 19
- reviewing 1997 positions 9
- starting positions 9, 11

H

Hairpin turns, Long Beach 30
- *See also turns:* Mid-Ohio, Vancouver

Head-up display
- description 3
- indicators 3
- *Quick Reference Card* 4

Help
- Game Controls Help 4
- *Gameplay Help* 4, 14, 20
- Help menu 4, 5, 14, 20
- Racing School 4, 5
- right-click help 4, 12, 13, 14
- status area 4, 15

Homestead *See* Miami
HUD *See* Head-up display

I

Illinois *See* St. Louis
Increasing radius turns, Cleveland 37
- *See also turns:* Detroit, Fontana, Laguna Seca, Michigan, Mid-Ohio, Nazareth, Portland, Rio de Janeiro, Toronto, Vancouver

Indicator lights, shifting 3
Indy car 1
In-game help *See* Help
Instant replay 23
Intermediate *See* Skill levels

J

Joystick controls
- description 2
- *Quick Reference Card* 4

K

Keyboard controls
- description 2
- *Quick Reference Card* 4

L

Laguna Seca
- braking, caution, and passing zones 43
- gearing 43
- race date 45
- turns 43

Lap indicator 3
Lap times 3, 19, 20
Late apex turns, Cleveland 37
Lessons *See* Racing School
Lights, shifting indicators 3
Long Beach
- braking, caution, and passing zones 30
- gearing 30
- race date 45
- turns 30

M

Map overlay 3, 22
Metro-Dade Homestead Motorsports Complex *See* Miami
Miami
- braking, caution, and passing zones 28
- gearing 28
- race date 45
- race tutorial 18–24
- turns 28

Michigan
- *See also* Detroit
- gearing 39
- race date 45
- turns 39

Mid-Ohio
- braking, caution, and passing zones 40
- gearing 40
- race date 45
- turns 40

Miles per hour 3
Milwaukee
- braking, caution, and passing zones 34
- gearing 34
- race date 45
- turns 34

Monterey, Laguna Seca 43

N

Nazareth
- braking, caution, and passing zones 31
- gearing 31
- race date 45
- turns 31

Next session
- Friday Practice 19
- Friday Qualifying 20
- Saturday Practice and Qualifying 21
- Sunday Race 24
- Sunday Warm-Up 22

Nigel Bennett *See* Race engineer
NQA (No Qualify Attempt) 20

O

Ohio
- Cleveland 37
- Mid-Ohio 40

Online help *See* Help
Open Race 15, 24
Options menu
- driving aids 12
- game controls 2
- realism options 13
- session control 18

Oregon *See* Portland
Ovals
  Fontana 44
  mastering corner speed 20
  Miami 28
  Michigan 39
  Milwaukee 34
  Nazareth 31
  Rio de Janeiro 32
  St. Louis 33
Oversteer 20

P

Passing
  in traffic 23
  Passing Techniques, Racing School 30
  passing zones, legend 11
Pause game 2, 21
Pennsylvania *See* Nazareth
Performance *See* Cars, setups
Picture-in-picture 3, 23
Pit board 19
Player
  current name 8
  editing name 12
  settings, Drivers screen 8
Portland
  braking, caution, and passing zones 36
  gearing 36
  race date 45
  turns 36
PPG CART World Series
  introduction 1
  raceways 27
  schedule 45
Practice
  Friday 19
  Saturday 21
Professional *See* Skill levels

Q

Quad-oval 28
Qualifying
  Friday session 20
  points earned 20
  qualify time 13, 20
  Saturday session 21
Queensland *See* Australia
Quick Race
  configure settings 2
  playing 2, 4
  random settings 2
  starting race 2, 15
Quick Reference Card 3, 4
Quit game 24
Quit race 2

R

Race engineer 14, 21
Race season
  continue 24
  description 15
  quitting 24
  saving 24
  tutorial 17–24
Race schedule *See* Schedule
Race weekend 15
Races screen
  current session and track 15
  Open Race 15
  Quick Race 15
  race type 15
  season stats 15
  session stats 15
Racing line
  driving aid 12
  Finding the Racing Line, Racing School 39

Racing School
  Braking Techniques 32, 40
  Car Control: The Basics 28
  Cornering Concepts 31, 40, 43
  Cornering Sequence 38, 40
  description 1, 4, 5
  Finding the Racing Line 39
  Passing Techniques 30
  tips 27
  Types of Corners 29, 35, 37, 40, 42
  video clips 5
Racing, Indy car 1
Rahal, Bobby *See* Bobby Rahal
Realism
  See also F3 key
  affecting driving and performance 13
  options 13
Results
  Friday Practice 19
  Friday Qualifying 20
  grid positions 19
  lap times 19
  NQA (No Qualify Attempt) 20
  qualifying times 20
  Saturday Practice and Qualifying 21
  Sunday Race 24
  Sunday Warm-Up 22
Reverse 2
Right-click Help 4, 12, 13, 14
Rio de Janeiro
  braking, caution, and passing zones 32
  gearing 32
  race date 45
  turns 32
Road America *See* Elkhart Lake
Road courses
  Cleveland 37
  Elkhart Lake 41
  Laguna Seca 43
  Mid-Ohio 40
  Portland 36
Rookie *See* Skill levels
RPM 3

S

Saturday Practice 21
Saturday Qualifying 21
Schedule 45
Season race
  playing the season 1, 17
  stats 15
  tutorial 4, 17–24
Session control 18
Session results *See* Results
Session stats 15
Setups, car 14, 21, 22
Shifting
  Auto-Shift 2
  controls 2
  indicator lights 3
Single race weekend *See* Race weekend
Skill levels
  affecting driving aids 8, 12
  types 12
  using Rookie skill level 18
Speed 3
Spring rate 21
St. Louis
  braking, caution, and passing zones 33
  gearing 33
  race date 45
  turns 33
Start Screen 2, 5
Start/finish line 11
Stats
  season 15
  session 15
Status area 4, 15
Steering 2

Street courses
    Australia 29
    Detroit 35
    Long Beach 30
    Toronto 38
    Vancouver 42
Sunday Race
    choosing number of laps 10, 13
    saving the race 24
    tutorial 23–24
    winning, points earned 24
Sunday Warm-Up 22
Surfers Paradise *See* Australia
Suspension 21

T

Teams 8
Temperature effects 13
Test drive 14, 15, 21
Tires
    pressure 21
    wear 13
Toronto
    braking, caution, and passing zones 38
    gearing 38
    race date 45
    turns 38
Track Info screen 10, 11
Track Notes 27–44
Tracks
    course layouts 10, 11, 27–44
    track tours 10, 11
Tracks screen 10
Traffic 23
Tri-oval 31
Turns
    See also specific type of turn
    Cornering Concepts, Racing School 31, 40, 43
Turns *(continued)*
    Cornering Sequence, Racing School 38, 40
    cornering skills 20
    driving cones 19
    Types of Corners, Racing School 5, 29, 35, 37, 40, 42
Tutorial 17–24

V

Vancouver
    braking, caution, and passing zones 42
    gearing 42
    race date 45
    turns 42
Video track tours 10, 11
Views
    changing views 3, 23
    cockpit view 3
    map overlay 3, 22
    picture-in-picture 3, 23

W

Weight jacking 20
Wheel stagger 21
Winning the race 24
Wisconsin
    Elkhart Lake 41
    Milwaukee 34

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